



FILE COPY

Mr. Mark Verhey
Humboldt County Division of Environmental Health
100 H Street, Suite 100
Eureka, California 95501

January 16, 2006

Re: **Fourth Quarter 2005 Groundwater Monitoring and
Remedial System Operations Report**
Former Central BP Station
2160 Central Avenue
McKinleyville, California
LOP # 12692
Blue Rock Project No. NC-24

Dear Mr. Verhey,

This report presents the results of the Fourth Quarter 2005 groundwater monitoring and soil vapor extraction (SVE) operational data for activities performed at the Former Central BP Station located at 2160 Central Avenue in McKinleyville, Humboldt County, California (site) (Figure 1). The report was prepared for the Louise Pierson Revocable Trust by Blue Rock Environmental, Inc. (Blue Rock).

Background

Site Description

The former Central BP Service Station is located in the unincorporated town of McKinleyville, California (Figure 1). The site is level and gravel surfaced, and the lot is approximately 0.5-acre. All former service station structures, including the fueling system, have been removed. The site is approximately 150 feet above mean sea level. Nearby property use is commercial.

Site and UST History

The Louise Pierson Trust has owned the property since 1956. A service station was constructed on the site in 1959. The original station included one 1,000-gallon used oil, two 5,000-gallon gasoline, and one 10,000-gallon gasoline underground storage tanks (USTs). In 1972, the station was remodeled, which included relocating the 1,000-gallon used oil tank 15 feet to the west, and installation of an additional 2,000-gallon gasoline UST was installed on the west side of the existing USTs.

In November 1990, the used oil tank and the 2,000-gallon UST were removed from the site. In August 1991, SHN Consulting Engineers excavated approximately 40 cubic yards of impacted soil from the 2,000-gallon UST pit.

In August 1998, Albers Construction of Eureka, California removed the remaining 5,000-gallon and 10,000-gallon USTs and overexcavated approximately 340 cubic yards of contaminated soil. Additionally, 200 cubic yards of contaminated tank fill was removed, remediated on site, and backfilled into the excavation per HCDEH approval. Soil samples collected from the UST excavations contained detectable levels of gasoline range hydrocarbons.

Site Investigation History

Site investigation has been ongoing since July 1999. A total of approximately 15 borings (B-1 through B-4, B-A through B-H, and SVB-1 through SVB-3) have been drilled and 12 monitoring wells (MW-1 through MW-12) installed at the site (Figure 2). Also, six vapor extraction wells (VEW-1 through VEW-6) and six air-sparge wells (SW-1 through SW-6) have been installed at the site (Figure 2). A summary of well construction details are included in Table 1 and cumulative groundwater monitoring data are included in Table 2.

Hydrogeology

The site appears to be underlain by sandy silt to a depth of at least 30 feet bgs, the maximum depth explored. Groundwater appears to occur in unconfined conditions with depth to water fluctuating between approximately 7 to 19 feet over the span of the annual hydrologic cycle. Groundwater flow direction has ranged from northwest, northeast, to east.

Contaminant Type

The predominant contaminants detected in the subsurface around the former UST system consist of total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethyl-benzene, xylene (BTEX). Low levels of fuel oxygenates (i.e. MTBE) and TPH as diesel (TPHd), relative to TPHg, have also been detected.

Remediation History

In April 2004, Sustainable Technologies of Alameda, California installed a soil vapor extraction/air sparge system (SVE/AS), which consisted of a grid of six vapor extraction and six air-sparge wells plumbed to a catalytic oxidizer and sparge blower. The SVE/AS system became operational in July 2004.

Field and Laboratory Activities

Groundwater Monitoring Activities

On December 28, 2005, twelve wells (MW-1 to MW-12) were gauged and were sampled. Prior to sampling, an electronic water level indicator was used to gauge depth to water in each well, accurate to within ± 0.01 -foot. All wells were checked for the presence of light non-aqueous phase liquid (LNAPL) petroleum prior to purging. No measurable thicknesses of LNAPL were observed on groundwater in any of the wells.

In preparation for sampling, the wells were purged of groundwater until sampling parameters (temperature, pH, and conductivity) stabilized. The pH / temp / conductivity meter failed in the during well purging activities. Therefore, wells MW-4 through MW-12 were subsequently purged of three wetted casing volumes without the measurement of sampling parameters. A downhole Dissolved Oxygen (DO) meter was used to measure DO concentrations in groundwater after the wells were purged. DO concentrations recorded this quarter are listed in the text below.

Following recovery of water levels to approximately 80% of their static levels, groundwater samples were collected from the wells using disposable polyethylene bailers and transferred to laboratory supplied containers. Sample containers were labeled, documented on a chain-of-custody form, and placed on ice in a cooler for transport to the project laboratory.

Purging instruments were cleaned between use by an Alconox® wash followed by double rinse in clean tap water to prevent cross-contamination. Purge and rinseate water was stored on-site in labeled 55-gallon drums pending future removal and disposal.

Groundwater monitoring and well purging information is presented on Gauge Data/Purge Calculations and Purge Data sheets (attached).

Groundwater Sample Analyses

Groundwater samples were analyzed by Kiff Analytical (Kiff), a DHS-certified laboratory, located in Davis, California, for the following analytes:

- TPHd by EPA Method 3510/8015M (MW-7 Only).
- TPHg, BTEX, MTBE by EPA Method 5030/8260B (all wells).

Groundwater Monitoring Results

Groundwater Flow Direction and Gradient

Static groundwater in the wells was present beneath the site at depths ranging from approximately 13.03 (MW-11) to 7.46 (MW-3) feet bgs. Gauging data, combined with well elevation data, were used to calculate groundwater elevations, and to generate a groundwater elevation and gradient map. The groundwater flow direction was calculated to towards the northeast at a gradient of 0.027 ft/ft (Figure 3). Historic groundwater flow direction and gradient are shown in Figure 4. The groundwater gradient and flow direction for this quarter is consistent with previous measurements.

Groundwater Contaminant Analytical Results

LNAPL:	None
TPHd concentration:	<600 µg/L (MW-7)
TPHg concentration:	<50 µg/L (numerous wells) to 11,000 µg/L (MW-7)
Benzene concentration:	<0.50 µg/L (numerous wells) to 51 µg/L (MW-7)
MTBE Concentration:	<0.50 µg/L (numerous wells) to <4 µg/L (MW-7)

Groundwater sample analytical results are shown graphically on Figure 5 cumulative groundwater sample analytical results are summarized in Table 2. Copies of the laboratory report and chain-of-custody form are attached.

The extent of dissolved-phase contamination remains delineated. The magnitude and distribution of dissolved-phase contaminants detected during this event have diminished compared to previous sampling events. Dissolved oxygen concentrations in groundwater ranged from 0.61 mg/L (MW-12) to 10.08 mg/L (MW-4) (See attached field notes).

Soil Vapor Extraction System

Background

The soil vapor extraction system design includes six wells plumbed for vapor extraction VEW-1 to VEW-6 (Figure 6). The remediation system was constructed in April 2004 in accordance with Clearwater's *RAP* dated September 3, 2003. The system was tested on July 6 through July 9, 2004 for initial compliance according to the North Coast Unified Air Quality Management District (NCUAQMD) authority to construct (ATC) permit #NAC-380 (Attached). Effluent results of the verification testing indicated that the system was operating within compliance of the permit. Thus, according to the ATC permit weekly compliance monitoring was initiated. The interval for the monitoring of the system and the collection influent and effluent air samples was reduced to monthly from weekly beginning in August 2004 as system compliance with the NCUAQMD ATC permit had been demonstrated.

Operational Data

Petroleum hydrocarbon vapors extracted from soil and groundwater are treated by a 250 scfm Solleco 250 ECAT catalytic oxidizer (catox).

In accordance with the NCAQMD ATC permit, the influent and effluent air streams for the catox unit were analyzed for contaminant concentrations (TPHg, BTEX and MTBE) during the first four days of startup and weekly thereafter. Sampling intervals were changed to monthly once compliance had been demonstrated. Catox operational data and analytical results for influent and effluent samples, and compliance data are presented on Tables 3, 4, 5 and 6. The soil vapor extraction process flow diagram is shown on Figure 7. Individual vapor well analytical results of vapor samples collected from the catox influent streams, during startup of the system in July 2004 are presented on Table 3. The following is a summary of the operational data and analytical results of samples from the soil vapor extraction process stream for this monitoring period:

- Monitoring Initiation: System was started on July 6, 2004
- Period of Operation: September 16, 2005 to December 20, 2005
- Monitoring Dates: 10/27/05, 11/29/05, 12/20/05
- Total Operational Hours: 9,271 hours to date
- Period Operational Hours: 1,869 Hours
- Period System running time: 86%

- Period Average influent air flow rate: 231 scfm
- Period Average influent air TPHg: 980 mg/m³
- Period Average effluent air TPHg: <20 mg/m³
- Period Average Destruction efficiency: >97 %,
- Period Average TPHg recovery rate: 30 lb/day
- Total TPHg recovery: 12,201 lb (2,007 gal) to date
- Operating wells: VEW-3 through VEW-6
- Analytes tested: TPHg, BTEX, MTBE
- Analytical methods: EPA Method 8260B
- Laboratory: Kiff Analytical LLC, Davis, California

The TPHg recovery rate is based on analytical influent air sample results and concurrently measured air flow. The average TPHg recovery rate for each month is multiplied by hours of operation for that period to calculate TPHg removal for the period between each sampling event.

Air Sparge System

Background

The air sparge injection system design includes five wells plumbed for sparging: SW-1 to SW-6 (Figure 8). The air sparge system was constructed in April 2004.

Operational Data

- Startup date: Started on December 1, 2004
- Operational time: On 24 hrs / day 7 days / week; off with SVE system shutdown
- Injection air flow rate: Approximately 7 to 8 scfm

The air sparge system was started following the installation of interlocks between the SVE and Sparge systems in early December 2004. The sparge system was subsequently shut down in mid December due to the added influent hydrocarbon concentrations originating from sparge system operation causing the system to shut down. When influent concentrations from SVE system operation began to diminish, the sparge system was restarted to remediate residual dissolved hydrocarbons.

In August 2005, the original 3-hp sparge pump had worn to the point that it no longer could pump a sufficient amount of air into the ground to produce a remedial effect. That pump was subsequently replaced with a 7.5-hp pump in an effort to resume effective groundwater remediation through air sparging. Additionally, the larger sparge pump has increased the rate of air flow into the subsurface thus increasing volatilization (stripping) of dissolved-phase hydrocarbons from dissolved phase to vapor phase for recovery through the catalytic oxidizer. Additionally, through operation of the sparge system, dissolved oxygen concentrations in site monitoring wells have increased to levels ranging as high as 10.08 mg/L.

Remedial System Status

The soil vapor extraction system is configured to concentrate extracting vapor from wells VEW-1 to VEW-6. The catox has been in operation since July 6, 2004. The soil vapor extraction system is operating as designed, recovering hydrocarbon vapor from the area of soil contamination at significant rates. An estimated 12,201 lb. (2,007 gal) of hydrocarbons have been recovered from the subsurface. Blue Rock recommends continued operation of the vapor extraction remediation system as designed. Sparge system operation has been resumed and appears to have increased the effectiveness of dissolved-phase remediation occurring at the site.

Observed Dissolved-Phase Mass Reduction

Blue Rock calculated the current dissolved-phase mass based on the groundwater analytical data obtained this quarter. Current calculations for the dissolved-phase mass for December 2005 indicate that approximately 5.5 lbs. (0.9 gallons) of TPHg remain dissolved in groundwater beneath the site. Blue Rock plotted the mass of dissolved-phase TPHg vs. time since the SVE system began operation (June 2004) (Appendix D) and an exponential curve was fitted to the plot. Based on these calculations, the dissolved-phase mass of TPHg continues to decline at significant rates since the SVE system began operation. Since the SVE / sparge system became operational, the TPHg dissolved-phase mass has decreased at a rate of 0.0064 day^{-1} (Chart 1). The total mass of dissolved-phase gasoline range hydrocarbons removed since the SVE system became operational is approximately 136 lbs. (22 gal.).

Response to HCDEH letter dated January 13, 2005

In this letter, the HCDEH provided the following comments/questions regarding SVE system operational data presented in Blue Rock's *Third Quarter 2005 Groundwater Monitoring and Remedial System Operations Report*, which are responded to below:

HCDEH Comments: "Table 4 of the subject report shows values for TPHg Yield (units are lb/hr). These values have a wide range. Is the TPHg yield a measure of how efficient the system is operating?"

"We plotted TPHg Yield versus sample date and observed an increase in yield during the months of October through December. In comparison, the lowest yield rates occurred during January through June. Do you have any comments regarding these observations? Do you think there might be benefits to operating the system less often during period when the system might have low yield rates?"

Blue Rock appreciates these comments and observations. We hope the following paragraphs adequately address these comments.

It is Blue Rock's experience that TPHg Yield fluctuation is normal for operating SVE systems and that TPHg Yield values fluctuate for many reasons. Generally speaking, TPHg Yield typically declines over the duration of clean-up operations (time scale of one to three years).

This results from continued reduction in hydrocarbon mass in the subsurface, which results in less mass to become entrained in the extracted soil vapor and thus lower TPHg Yield rates. Short-term fluctuations in TPHg Yield rates can also occur due to changes operational parameters and/or hydrogeologic conditions. Operational parameters include such things as which extraction wells are operational, whether or not there is concurrent air sparging, and the number of sparge wells used. Hydrogeologic parameters include such things as fluctuations in groundwater elevations, which might submerge or expose soil contamination to the soil vapor extraction process.

At this site, Blue Rock anticipated TPHg Yield rates to decline during periods of higher groundwater conditions (January through June). As discussed above, these lower yield rates result from soil contamination becoming submerged by rising groundwater, and therefore it is not exposed to the effects of soil vapor extraction. However, these submerged contaminants continue to be remediated, albeit at slower rates, by air-sparging. Concurrent operation of the SVE unit continues to affect the vadose zone, and SVE operation is needed to capture and treat sparged air. Even during the most recent period of high groundwater conditions (from January to June 2005), the TPHg Yield rates clean-up rates were still significant at ~0.6 to 1.5 lbs/hr with an approximate TPHg mass removal of 1,450 lbs for that period.

Operating the SVE system less often during periods of higher groundwater will likely result in a longer duration of clean-up and time until site closure. Any cost savings achieved by operating the system less during periods of high groundwater may be lost at the tail-end of the project in the form of extra groundwater monitoring events.

Blue Rock will continue to evaluate and use SVE operations data to optimize TPHg recovery. If, during this winter and spring, influent TPHg concentrations diminish to non-detectable levels for two consecutive months, Blue Rock may consider adjusting the operational schedule. At this time, however, Blue Rock recommends continued operation of the SVE/AS system at the site.

Project Status and Recommendations

- The site is currently being monitored on a quarterly basis per the HCDEH directive directives. The next quarterly sampling event is scheduled for December 2005. Groundwater samples are currently analyzed for TPHd (MW-7), TPHg, BTEX, and MTBE (all wells).
- The SVE / AS system should continue operation as designed. The next influent / effluent sampling event is scheduled for January 2006.
- As the extent and magnitude of the dissolved-phase plume continues to diminish through operation of the SVE / AS remedial system, Blue Rock recommends beginning the site closure evaluation process in an effort to expedite the site closure process. This should include, as the HCDEH requires, evaluation of the extent residual post remediation sorbed-phase contamination through confirmation soil sampling and evaluation of trends in the magnitude and extent of the dissolved-phase plume (see attached dissolved phase mass calculations and graph).

Certification

This report was prepared under the supervision of a California Professional Geologist at Blue Rock. All statements, conclusions, and recommendations are based upon published results from past consultants, field observations by Blue Rock, and analyses performed by a state-certified laboratory as they relate to the time, location, and depth of points sampled by Blue Rock. Interpretation of data, including spatial distribution and temporal trends, are based on commonly used geologic and scientific principles. It is possible that interpretations, conclusions, and recommendations presented in this report may change, as additional data become available and/or regulations change.

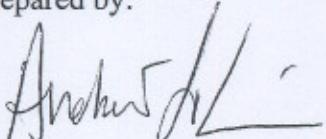
Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service performed by Blue Rock has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

If you have any questions regarding this project, please contact us at (707) 441-1934.

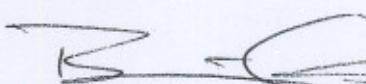
Sincerely,
Blue Rock Environmental, Inc.

Prepared by:

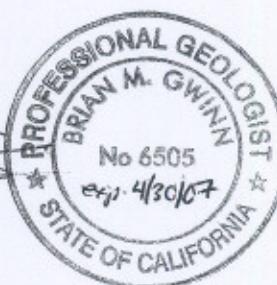


Andrew LoCicero
Project Scientist

Reviewed by:



Brian Gwinn, P.G.
Principal Geologist



Attachments:

- Table 1: Well Construction Details
- Table 2: Groundwater Elevations and Sample Analytical Results
- Table 3: SVE Air Sample Analytical Results
- Table 4: SVE Operational Data
- Table 5: SVE Catox Treatment Data
- Table 6: SVE Catox Emissions Calculations

- Figure 1: Site Location Map
- Figure 2: Site Plan
- Figure 3: Groundwater Elevation and Gradient Map – 12/28/05
- Figure 4: Cumulative Groundwater Flow Direction and Gradient 6/99 – 12/05
- Figure 5: Dissolved-Phase Hydrocarbon (TPHg) Distribution – 12/28/05
- Figure 6a: SVE Layout and Radius of Influence (VEW-1, 3, 5)
- Figure 6b: SVE Layout and Radius of Influence (VEW-2, 4, 6)
- Figure 7: Catox and Well Manifold Schematic
- Figure 8: Air-Sparge Blower and Well Manifold Schematic

- Appendix A: Blue Rock Gauge/Purge Calculations Well Purging Data field sheets and SVE O&M Forms
- Appendix B: Laboratory Analytical Reports and Chain-of-Custody Forms
- Appendix C: North Coast Unified Air Quality Management District Authority to Construct Permit
- Appendix D: Dissolved Mass Calculations, Figures and Graph 2Q04 to 4Q05

Distribution:

Mr. Greg Pierson, Louise Pierson Revocable Trust, 1200 W. Harris Street, Eureka, CA 95503

Mr. Al Steer, North Coast Unified Air Quality Management District, 2300 Myrtle Ave. Eureka, CA 95501

TABLES

Table 1
Well Construction Data
Former Central BP Station
2160 Central Ave
McKinleyville, California
Blue Rock Project No. NC-24

Well Identification	Date Installed	Installed by	Casing Diameter (inches)	Total Depth (feet)	Blank Interval (feet)	Screened Interval (feet)	Slot Size (inches)	Filter Pack (feet)	Bentonite Seal (feet)	Cement (feet)
MW-1	7/20/99	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-2	7/20/99	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-3	7/20/99	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-4	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-5	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-6	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-7	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-8	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-9	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-10	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-11	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-12	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
VEW-1	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-2	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-3	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-4	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-5	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
SW-1	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-2	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-3	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-4	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-5	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-6	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5

Table 2
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
McKinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	Ethyl-benzene												
					TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	(µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)
MW-1	7/28/99	149.69	14.52	135.17	13,000	620	<500	12	10	580	796	25	--	--	--	--	--
	10/25/99	149.69	17.42	132.27	10,000	640	<500	48	3.9	400	262	83	<2.5	110	<2.5	<50	--
	1/18/00	149.69	14.32	135.37	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<10	--
	2/17/00	149.69	9.36	140.33	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/3/00	149.69	8.52	141.17	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/21/00	149.69	10.39	139.30	<50	<50	<170	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<10	--
	9/12/00	149.69	17.11	132.58	113	135	-	0.7	0.8	3.6	8.1	<2	<0.5	<0.5	<0.5	<500	--
	10/16/00	149.69	17.97	131.72	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/16/00	149.69	18.37	131.72	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/14/00	149.69	18.59	131.10	148	<50	--	2.9	<0.8	<0.8	<1.5	5.1	<1.3	<1.3	<1.3	<1.3	--
	1/22/01	149.69	18.46	131.23	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.69	17.78	131.91	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.69	16.78	132.91	885	100	-	<0.3	<0.5	<0.3	6.2	<2	<0.5	<0.5	<0.5	<0.5	--
	4/13/01	149.69	17.11	132.58	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.69	17.7	131.99	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.69	18.04	131.65	930	<250	--	1.7	0.85	20	1.9	0.67	<0.5	<0.5	<0.5	<5	--
	7/18/01	149.69	19.02	130.67	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.69	19.57	130.12	170	<100	-	<0.5	0.66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	10/10/01	149.69	dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.69	dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/27/01	149.69	15.81	133.88	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.69	13.31	136.38	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.69	12.46	137.23	64	<50	--	<0.5	<0.5	<0.5	3.1	<0.5	<0.5	<0.5	<0.5	<5	<50
	3/14/02	149.69	9.79	139.90	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.69	10.27	139.42	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.69	12.12	137.57	<50	<50	--	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<5	<50
	7/23/02	148.28	16.61	131.67	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	148.28	17.01	131.27	430	<200	--	<0.5	<0.5	16	15	<0.5	<0.5	<0.5	<0.5	<5	58
	11/18/02	148.28	dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/6/03	148.28	9.53	138.75	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	5/1/03	148.28	7.83	140.45	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	8/1/03	148.28	14.89	133.39	1,200	<200	--	0.63	5.4	1.8	61	<0.5	<0.5	<0.5	<0.5	<5	<50
	11/10/03	148.28	19.25	129.03	<50	64	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	2/4/04	148.28	10.01	138.27	<50	71	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	6/28/04	148.28	15.04	133.24	630	<200	--	<0.5	1.2	15	22	<0.5	--	--	--	--	--
	9/8/04	148.28	17.87	130.41	150	<200	--	<0.5	<0.5	5.9	<0.5	<0.5	--	--	--	--	--
	12/2/04	148.28	19.19	129.09	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	3/27/05	148.28	14.04	134.24	130	<50	--	<0.5	<0.5	1.3	1.9	<0.5	--	--	--	--	--
	6/14/05	148.28	13.42	134.86	<50	59	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	9/13/05	148.28	18.28	130.00	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	12/28/05	148.28	9.59	138.69	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
MW-2	7/28/99	149.24	14.11	135.13	<50	<50	<500	<0.5	<50	<0.5	<0.5	40	--	--	--	--	--
	10/25/99	149.24	16.77	132.47	<50	<50	<500	1.4	<0.5	<0.5	<0.5	27	<1	<1	<1	<10	--
	1/18/00	149.24	9.89	139.35	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	1	<1	<1	<1	<10	--
	2/17/00	149.24	10.76	138.48	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/3/00	149.24	9.72	139.52	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/21/00	149.24	11.21	138.03	<50	<50	<170	<0.5	<0.5	<0.5	<0.5	<0.5	12	<1	<1	<1	<10
	9/12/00	149.24	16.43	132.81	<50	<50	--	0.9	<0.3	<0.3	<0.6	23.9	<0.5	<0.5	<0.5	<500	--
	10/16/00	149.24	17.33	131.91	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/16/00	149.24	17.86	132.81	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/14/00	149.24	18.16	131.91	<50	<50	--	<0.3	<0.3	<0.3	<0.6	14.3	<0.5	<0.5	<0.5	<0.5	--
	1/22/01	149.24	18.19	131.05	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.24	17.74	131.50	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.24	17.04	132.20	<50	<50	--	<0.3	<0.3	<0.3	<0.6	7	<0.5	<0.5	<0.5	<0.5	--
	4/13/01	149.24	17.01	132.23	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
McKinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	Ethyl-benzene												
					TPHg ($\mu\text{g/L}$)	TPHd ($\mu\text{g/L}$)	TPHmo ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	Xylenes ($\mu\text{g/L}$)	MTBE ($\mu\text{g/L}$)	DIPE ($\mu\text{g/L}$)	TAME ($\mu\text{g/L}$)	ETBE ($\mu\text{g/L}$)	TBA ($\mu\text{g/L}$)	Ethanol ($\mu\text{g/L}$)
MW-2	5/7/01	149.24	17.34	131.90	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.24	17.83	131.41	<50	<50	-	<0.5	<0.5	<0.5	<0.5	13	<0.5	<0.5	<0.5	<5	--
	7/18/01	149.24	18.65	130.59	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.24	19.14	130.10	<50	<50	--	<0.5	<0.5	<0.5	<0.5	13	<0.5	<0.5	<0.5	<5	<50
	10/10/01	149.24	19.92	129.32	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.24	20.55	128.69	<50	<50	--	<0.5	<0.5	<0.5	<0.5	19	<0.5	<0.5	<0.5	<5	<50
	12/27/01	149.24	17.89	131.35	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.24	15.86	133.38	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.24	14.51	134.73	820	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	8.1	<5
	3/14/02	149.24	11.34	137.90	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.24	11.49	137.75	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.24	12.69	136.55	1,200	<50	--	8.9	<0.5	<0.5	<0.5	8.5	<0.5	<0.5	<0.5	6.9	<5
	7/23/02	148.06	15.81	132.25	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	148.06	16.15	131.91	1,000	<50	--	13	0.7	<0.5	1.5	9.6	<0.5	<0.5	<0.5	8.4	<20
	11/18/02	148.06	18.96	129.10	<50	<50	--	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<0.5	<0.5	<5	<50
	2/6/03	148.06	11.04	137.02	1,400	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<10
	5/1/03	148.06	8.96	139.10	120	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	8/1/03	148.06	14.23	133.83	840	<50	--	0.67	<0.5	<0.5	<0.5	0.73	<0.5	<0.5	<0.5	<5	--
	11/10/03	148.06	18.47	129.59	370	<50	--	9.2	<0.5	<0.5	5	0.53	<0.5	<0.5	<0.5	<5	<50
	2/4/04	148.06	11.34	136.72	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	6/28/04	148.06	14.69	133.37	66	<50	--	3	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	9/8/04	148.06	17.13	130.93	<50	<50	--	2.1	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	12/2/04	148.06	18.66	129.40	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	3/27/05	148.06	15.19	132.87	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	6/14/05	148.06	13.48	134.58	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	9/13/05	148.06	17.92	130.14	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	12/28/05	148.06	12.01	136.05	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
MW-3	7/28/99	148.62	13.40	135.22	<50	53	<500	<0.5	<0.5	<0.5	<0.5	100	--	--	--	--	--
	10/25/99	148.62	16.72	131.90	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	11	<1	<1	<1	<10	--
	1/18/00	148.62	13.78	134.84	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	4.9	<1	<1	<1	<10	--
	2/17/00	148.62	8.17	140.45	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/3/00	148.62	7.46	141.16	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/21/00	149.24	9.54	139.70	<50	<50	<170	<0.5	<0.5	<0.5	<0.5	6.9	<1	<1	<1	<10	--
	9/12/00	149.24	16.23	133.01	58	<50	-	<0.3	<0.3	<0.3	<0.6	89.7	<0.5	9.4	<0.5	<500	--
	10/16/00	149.24	17.13	132.11	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/16/00	149.24	17.52	131.72	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/14/00	149.24	17.67	131.57	68	<50	--	<0.3	<0.3	<0.3	<0.6	62.3	<0.5	3.8	<0.5	<5	--
	1/22/01	149.24	17.68	131.56	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.24	16.99	132.25	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.24	15.93	133.31	<200	<50	--	<1.2	<1.2	<1.2	33.7	42.6	<2	<2	3.4	<2	--
	4/13/01	149.24	16.19	133.05	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.24	16.63	132.61	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.24	17.16	132.08	<50	<50	--	<0.5	<0.5	<0.5	<0.5	73	<0.5	7.7	<0.5	<5	--
	7/17/01	149.24	18.10	131.14	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.24	18.65	130.59	<50	<50	--	<0.5	<0.5	<0.5	<0.5	53	<0.5	3.7	<0.5	<5	<50
	10/10/01	149.24	19.48	129.76	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.24	20.06	129.18	<50	<50	--	<0.5	<0.5	<0.5	<0.5	69	<0.5	3.4	<0.5	<5	<50
	12/27/01	149.24	14.29	134.95	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.24	10.79	138.45	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.24	10.43	138.81	<50	<50	--	<0.5	<0.5	<0.5	<0.5	6.2	<0.5	<0.5	<0.5	<5	<50
	3/14/02	149.24	8.34	140.90	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.24	9.08	140.16	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.24	10.57	138.67	<50	<50	--	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<5	<50
	7/23/02	147.44	15.67	131.77	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	147.44	16.09	131.35	<50	<50	--	<0.5	<0.5	<0.5	<0.5	4	<0.5	<0.5	<0.5	<5	95
	11/18/02	147.44	18.77	128.67	<50	<50	--	<0.5	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	<5	68
	2/6/03	147.44	8.14	139.30	<50	62	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	5/1/03	147.44	6.56	140.88	<50	140	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	8/1/03	147.44	13.89	133.55	<50	81	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	--
	11/10/03	147.44	18.37	129.07	<50	89	--	<0.5	<0.5	<0.5	<0.5	2	<0.5	<0.5	<0.5	<5	<50
	2/4/04	147.44	8.55	138.89	<50	82	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	6/28/04	147.44	14.15	133.29	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	9/8/04	147.44	16.93	130.51	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	12/2/04	147.44	18.31	129.13	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	3/27/05	147.44	11.95	135.49	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	6/14/05	147.44	11.46	135.98	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	9/13/05	147.44	16.76	130.68	<50	<50											

Table 2
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
McKinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	Ethyl-benzene												
					TPHg ($\mu\text{g/L}$)	TPHd ($\mu\text{g/L}$)	TPHmo ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Xylenes ($\mu\text{g/L}$)	MTBE ($\mu\text{g/L}$)	DIPE ($\mu\text{g/L}$)	TAME ($\mu\text{g/L}$)	ETBE ($\mu\text{g/L}$)	TBA ($\mu\text{g/L}$)	Ethanol ($\mu\text{g/L}$)	Methanol ($\mu\text{g/L}$)
MW-4	9/12/00	149.92	17.56	132.36	<50	<50	--	<0.3	<0.3	<0.3	<0.6	<2	<0.5	<0.5	<0.5	<500	--
	10/16/00	149.92	18.41	131.51	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/16/00	149.92	18.65	131.27	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/14/00	149.92	18.88	131.04	<50	<50	--	<0.3	<0.3	<0.3	<0.6	<2	<0.5	<0.5	<0.5	<0.5	--
	1/22/01	149.92	18.65	131.27	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.92	17.82	132.10	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.92	16.52	133.40	<50	<50	--	<0.3	<0.3	<0.3	<0.6	<2	<0.5	<0.5	<0.5	<0.5	--
	4/13/01	149.92	17.14	132.78	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.92	17.70	132.22	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.92	18.23	131.69	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	--
	7/18/01	149.92	19.24	130.68	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.92	19.84	130.08	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	10/10/01	149.92	20.72	129.20	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.92	21.28	128.64	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	12/27/01	149.92	15.81	134.11	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.92	12.50	137.42	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.92	12.08	137.84	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	3/14/02	149.92	9.61	140.31	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.92	10.48	139.44	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.92	12.24	137.68	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	7/23/02	148.51	17.01	131.50	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	148.51	17.43	131.08	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	11
	11/18/02	148.51	20.01	128.50	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	2/6/03	148.51	9.33	139.18	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	5/1/03	148.51	7.67	140.84	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	8/1/03	148.51	15.18	133.33	<50	63	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	--
	11/10/03	148.51	19.62	128.89	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	2/4/04	148.51	9.86	138.65	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
	6/28/04	148.51	15.21	133.30	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
	9/8/04	148.51	18.25	130.26	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
	12/2/04	148.51	19.48	129.03	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
	3/27/05	148.51	13.29	135.22	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
	6/14/05	148.51	12.73	135.78	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
	9/13/05	148.51	18.11	130.40	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
	12/28/05	148.51	8.63	139.88	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
MW-5	9/12/00	149.02	15.83	133.19	69,300	5,240	--	566	7,310	2,690	9,570	28.5	<0.5	<0.5	<0.5	<500	--
	10/16/00	149.02	16.92	132.10	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/16/00	149.02	17.62	131.40	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/14/00	149.02	17.93	131.09	40,400	7,050	--	324	2,260	1,280	4,730	25	<2.5	<2.5	<2.5	<2.5	--
	1/2/01	149.02	17.86	131.16	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.02	17.22	131.80	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.02	16.56	132.46	36,500	--	--	523	3,950	1,240	4,750	21.2	<0.5	<0.5	<0.5	<0.5	--
	4/13/01	149.02	16.54	132.48	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.02	16.81	132.21	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.02	17.28	131.74	35,000	<2,500	--	400	2,800	1,200	4,300	12	<10	<10	<10	<100	--
	7/18/01	149.02	18.33	130.69	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.02	18.93	130.09	33,000	<2,800	--	130	1,300	920	2,900	<5	<5	<5	<5	<50	<500
	10/10/01	149.02	19.82	129.20	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.02	20.43	128.59	30,000	<2,100	--	630	2,700	1,000	3,300	25	<10	<10	<10	<100	<1,000
	12/27/01	149.02	17.45	131.57	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.02	15.54	133.54	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.02	13.98	135.04	72,000	<2,900	--	2,300	14,000	2,100	8,100	<50	<50	<50	<50	<500	<5,000
	3/14/02	149.02	10.67	138.35	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.02	10.85	138.17	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.02	12.10	136.92	30,000	<500	--	1,100	3,700	940	3,300	<5.0	<5.0	<5.0	<5.0	<50	<500
	7/23/02	147.64	15.37	132.27	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	147.64	15.73	131.91	55,000	<2,500	--	1,100	4,900	1,800	6,500	<20	<20	<20	<20	<200	<2,000
	11/18/02	147.64	18.91	128.73	26,000	<3,500	--	220	450	930	1,900	33	<5	6.7	<5	<50	<500
	2/6/03	147.64	10.32	137.32	2,300	<400	--	8.9	60	33	79	<0.5	<0.5	<0.5	<0.5	9.3	<20
	5/1/03	147.64	8.27	139.37	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	8/1/03	147.64	13.81	133.83	8,800	<600	--	110	1,300	210	1,000	<0.5	<0.5	<0.5	<0.5	<5	<50
	11/10/03	147.64	18.06	129.58	24,000	<3,300	--	170	200	540	1,000	<5	<5	<5	<5	<50	<500
	2/4/04	147.64	10.86	136.78	3,800	<300	--	9.1	31	59	110	<1	--	--	--	--	--
	6/28/04	147.64	14.27	133.37	13,000	<1,000	--	270	600	440	1,600	<2.5	--	--	--	--	--
	9/8/04	147.64	16.16	131.48	24,000	<4,000	--	210	230	730	1,300	<5	--	--	--	--	--
	12/2/04	147.64	18.11	129.53	37,000	<2,000	--	1,900	5,100	1,400	3,500	17	--	--	--	--	--
	3/27/05	147.64	11.84	135													

Table 2
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
McKinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg ($\mu\text{g/L}$)	TPHd ($\mu\text{g/L}$)	TPHmo ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	Xylenes ($\mu\text{g/L}$)	MTBE ($\mu\text{g/L}$)	DIPE ($\mu\text{g/L}$)	TAME ($\mu\text{g/L}$)	ETBE ($\mu\text{g/L}$)	TBA ($\mu\text{g/L}$)	Ethanol ($\mu\text{g/L}$)	Methanol ($\mu\text{g/L}$)
MW-6	9/12/00	149.82	17.28	132.54	2,310	759	--	20.5	28.5	177	58.7	13.8	<0.5	<0.5	<0.5	<500	--	--
	10/16/00	149.82	18.23	131.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Screen	11/16/00	149.82	18.56	131.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5'-25'	12/14/00	149.82	18.82	131.00	1,790	670	--	12.9	2.5	175	9.9	8.1	<0.5	<0.5	<0.5	<0.5	--	--
	1/22/01	149.82	18.73	131.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.82	18.03	131.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.82	17.09	132.73	8,150	1,880	-	11.9	9.4	458	173	2.6	<0.5	<0.5	<0.5	<0.5	--	--
	4/13/01	149.82	17.38	132.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.82	17.82	132.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.82	18.33	131.49	4,400	<1,200	--	3.6	1.2	180	20	1.9	<1	<1	<1	<10	--	--
	7/18/01	149.82	19.31	130.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.82	19.86	129.96	1,900	<600	--	7.8	<0.5	17	1.3	3.6	<0.5	0.86	<0.5	<5	<5	<50
	10/10/01	149.82	20.73	129.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.82	21.27	128.55	2,100	<400	--	23	2.9	28	0.68	9.4	<0.5	2.3	<0.5	<5	<5	<100
	12/27/01	149.82	17.36	132.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.82	14.93	134.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.82	13.93	135.89	2,700	<400	--	0.8	<0.5	55	40	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	3/14/02	149.82	11.27	138.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.82	11.62	138.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.82	12.98	136.84	1,100	<200	--	<0.05	<0.5	24	1.2	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	7/23/02	148.42	16.84	131.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	148.42	17.23	131.19	2,600	<500	--	1.8	<0.5	100	<0.5	<0.5	<0.5	<0.5	<0.5	7.1	<15	<50
	11/18/02	148.42	19.94	128.48	370	<200	--	1.7	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	5.9	<5	<50
	2/6/03	148.42	10.78	137.64	460	<300	--	<0.5	<0.5	3.6	3.3	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	5/1/03	148.42	8.90	139.52	130	<150	--	<0.5	<0.5	2.6	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	8/1/03	148.42	15.11	133.31	830	<400	--	<0.5	<0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	--
	11/10/03	148.42	19.44	128.98	740	<400	--	2.8	0.64	14	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	2/4/04	148.42	10.95	137.47	260	<200	--	<0.5	<0.5	0.62	<0.5	--	--	--	--	--	--	--
	6/28/04	148.42	15.30	133.12	180	<100	--	<0.5	<0.5	2.6	<0.5	<0.5	--	--	--	--	--	--
	9/8/04	148.42	18.08	130.34	430	<400	--	0.7	<0.5	7.1	<0.5	<0.5	--	--	--	--	--	--
	12/2/04	148.42	19.43	128.99	92	<50	--	0.7	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	3/27/05	148.42	14.94	133.48	150	<100	--	<0.5	<0.5	1.6	2	<0.5	--	--	--	--	--	--
	6/14/05	148.42	14.26	134.16	490	<300	--	<0.5	<0.5	4	1.3	<0.5	--	--	--	--	--	--
	9/13/05	148.42	18.92	129.50	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	12/28/05	148.42	11.55	136.87	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
MW-7	9/12/00	149.53	16.26	133.27	324,000	6,380	--	18,300	46,100	7,650	33,200	<400	<0.5	<0.5	<0.5	<500	--	--
	10/16/00	149.53	17.44	132.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Screen	11/16/00	149.53	17.96	131.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5'-25'	12/14/00	149.53	18.27	131.26	87,200	2,910	--	12,100	28,800	3,220	14,090	81.3	<2.5	--	<2.5	2.5	--	--
	1/22/01	149.53	18.25	131.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.53	17.74	131.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.53	17.04	132.49	87,500	7,810	--	7,120	21,300	2,250	10,440	48.9	<0.5	<0.5	<0.5	<0.5	--	--
	4/13/01	149.53	17.12	132.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.53	17.40	132.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.53	17.89	131.64	120,000	<4,000	--	9,900	26,000	3,100	13,000	60	<50	<50	<50	<500	--	--
	7/18/01	149.53	18.72	130.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.53	19.23	130.30	86,000	<3,000	--	8,000	15,000	3,300	12,000	67	<50	<50	<50	<500	<5,000	--
	10/10/01	149.53	19.89	129.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.53	20.64	128.89	88,000	<6,500	--	5,900	14,000	2,800	11,000	<50	<50	<50	<50	<500	<5,000	<5,000
	12/27/01	149.53	17.74	131.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.53	15.71	133.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.53	14.44	135.09	110,000	<10,200	--	960	12,000	3,600	16,000	<50	<50	<50	<50	<500	<5,000	<5,000
	3/14/02	149.53	10.88	138.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.53	11.18	138.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.53	12.49	137.04	180,000	<9,400	--	1,200	13,000	4,100	18,000	<25	<25	<25	<25	<250	<250	<2,500
	7/23/02	148.09	15.73	132.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	148.09	16.06	132.03	130,000	<4,500	--	1,200	15,000	3,900	16,000	<50	<50	<50	<50	<500	<5,000	<5,000
	11/18/02	148.09	19.12	128.97	110,000	<7,000	--	2,900	21,000	3,300	13,000	<100	<100	<100	<100	<1,000	<1,000	<10,000
	2/6/03	148.09	10.64	137.45	78,000	<26,000	--	200	3,100	3,600	13,000	<20	<20	<20	<20	<200	<200	<2,000
	5/1/03	148.09	8.57	139.52	41,000	<6,700	--	23	400	1,700	6,600	<0.5	<0.5	<0.5	<0.5	<5	8.7	<50
	8/1/03	148.09	14.18	133.91	89,000	<25,000	--	340	4,700	4,300	18,000	<25	<25	<25	<25	<250	<250	<2,500
	11/10/03	148.09	18.53	129.56	77,000	<6,700	--	630	5,500	1,900	8,400	<25	<25	<25	<25	<250	<250	<2,500
	2/4/04	148.09	11.05	137.04	62,000	<8,000	--	110	1,900	2,700	11,000	<10	--	--	--	--	--	--
	6/28/04	148.09	14.58	133.51	77,000	<8,000	--	200	3,100	2,700	11,000	<20	--	--	--	--	--	--
	9/8/04	148.09	17.04	131.05	64,000	<10,000	--	320	2,400	2,600	11,000	<25	--	--	--	--	--	--
	12/2/04	148.09	18.64	129.45	44,000	<10,000	--	430	1,100	1,600	5,900	<10	--	--	--	--	--	--
	3/27/05	148.09	15.24	132.85	18,000	<10,000	--	180	460	390	2,400	<4	--	--	--	--	--	--
	6/14/05	148.09	13.															

Table 2
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
McKinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	Ethyl-benzene													
					TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Methanol (µg/L)	
MW-8	8/17/01	148.75	18.58	130.17	540	<200	--	82	<0.5	1.4	3.8	23	<0.5	<0.5	<0.5	7.8	<5	<50
	10/10/01	148.75	19.36	129.39	--	--	--	--	--	--	--	--	--	--	--	--	--	
Screen	11/19/01	148.75	19.99	128.76	870	<120	--	19	<0.5	11	<0.5	160	<0.5	2.2	4.6	15	<5	<50
5'-25'	12/27/01	148.75	17.42	131.33	--	--	--	--	--	--	--	--	--	--	--	--	--	
	1/14/02	148.75	14.77	133.98	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/4/02	148.75	13.48	135.27	1,200	<300	--	30	<0.5	<0.5	1.3	290	<0.5	4.9	4.3	32	<12	<650
	3/14/02	148.75	10.77	137.98	--	--	--	--	--	--	--	--	--	--	--	--	--	
	4/4/02	148.75	10.95	137.80	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/7/02	148.75	12.17	136.58	1,400	<100	--	110	0.51	<0.5	1.5	19	<0.5	<0.5	<0.5	9.6	<5	<50
	7/23/02	147.49	15.52	131.97	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/5/02	147.49	15.90	131.59	780	<200	--	90	<0.5	<0.5	0.96	40	<0.5	0.60	0.55	12	<5	<75
	11/18/02	147.49	18.53	128.96	380	100	--	46	<0.5	1.1	<0.5	89	<0.5	1.10	<0.5	16	<5	<50
	2/6/03	147.49	10.32	137.17	210	<50	--	10	<0.5	<0.5	<0.5	24	<0.5	<0.5	<0.5	12	<5	<50
	5/1/03	147.49	8.40	139.09	150	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	8/1/03	147.49	13.92	133.57	650	120	--	73	<0.5	<0.5	1.2	12	<0.5	<0.5	<0.5	28	--	--
	11/10/03	147.49	18.16	129.33	88	87	--	4	<0.5	<0.5	<0.5	78	<0.5	0.93	1.3	8.9	<5	<50
	2/4/04	147.49	10.78	136.71	120	<50	--	1.2	<0.5	<0.5	<0.5	4.2	--	--	--	--	--	--
	6/28/04	147.49	14.23	133.26	160	<50	--	22	<0.5	<0.5	0.91	9.6	--	--	--	--	--	--
	9/8/04	147.49	16.77	130.72	52	<50	--	15	<0.5	<0.5	<0.5	27	--	--	--	--	--	--
	12/2/04	147.49	18.17	129.32	380	<50	--	39	<0.5	11	<0.5	41	--	--	--	--	--	--
	3/27/05	147.49	14.97	132.52	<50	<50	--	<0.5	<0.5	<0.5	<0.5	0.85	--	--	--	--	--	--
	6/14/05	147.70	12.65	135.05	<50	52	--	<0.5	<0.5	<0.5	<0.5	0.68	--	--	--	--	--	--
	9/13/05	147.70	16.94	130.76	<50	<50	--	<0.5	<0.5	<0.5	<0.5	4	--	--	--	--	--	--
	12/28/05	147.70	11.56	136.14	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
MW-9	8/17/01	148.19	17.41	130.78	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<50
	10/10/01	148.19	18.09	130.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Screen	11/19/01	148.19	18.66	129.53	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
5'-25'	12/27/01	148.19	16.10	132.09	--	--	--	--	--	--	--	--	--	--	--	--	--	
	1/14/02	148.19	14.09	134.10	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/4/02	148.19	12.88	135.31	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	3/14/02	148.19	9.91	138.28	--	--	--	--	--	--	--	--	--	--	--	--	--	
	4/4/02	148.19	10.05	138.14	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/7/02	148.19	11.27	136.92	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	7/23/02	147.00	14.27	132.73	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/5/02	147.00	14.64	132.36	<50	67	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	11/18/02	147.00	17.32	129.68	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7.7	<50	
	2/6/03	147.00	9.68	137.32	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	5/1/03	147.00	7.78	139.22	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	8/1/03	147.00	12.76	134.24	<50	74	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	--	
	11/10/03	147.00	16.95	130.05	<50	72	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	2/4/04	147.00	10.16	136.84	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
	6/28/04	147.00	13.11	133.89	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
	9/8/04	147.00	15.47	131.53	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
	12/2/04	147.00	17.02	129.98	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
	3/27/05	147.00	13.23	133.77	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
	6/14/05	147.00	11.61	135.39	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
	9/13/05	147.00	14.73	132.27	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
	12/28/05	147.00	8.66	138.34	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	

GROUNDWATER ELEVATION AND ANALYTICAL RESULTS

४८१

McKinnleyville, California
Project No. NC-24

Table 2
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
McKinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg ($\mu\text{g/L}$)	TPHd ($\mu\text{g/L}$)	TPHmo ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl-benzene ($\mu\text{g/L}$)	Xylenes ($\mu\text{g/L}$)	MTBE ($\mu\text{g/L}$)	DIPE ($\mu\text{g/L}$)	TAME ($\mu\text{g/L}$)	ETBE ($\mu\text{g/L}$)	TBA ($\mu\text{g/L}$)	Ethanol ($\mu\text{g/L}$)	Methanol ($\mu\text{g/L}$)
MW-12	8/17/01	147.93	18.31	129.62	590	<300	--	19	<0.5	<0.5	<0.5	19	<0.5	0.97	<0.5	38	<5	63
	10/10/01	147.93	19.20	128.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Screen	11/19/01	147.93	19.77	128.16	280	<150	--	7.9	<0.5	<0.5	<0.5	20	<0.5	1.3	<0.5	25	<5	<50
S-25'	12/27/01	147.93	16.99	130.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	147.93	14.62	133.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	147.93	13.29	134.64	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	3/14/02	147.93	10.51	137.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	147.93	10.63	137.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	147.93	11.80	136.13	600	<100	--	22	<0.5	2.2	<0.5	0.92	<0.5	<0.5	<0.5	<5	<5	<50
	7/23/02	146.74	15.16	131.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	146.74	15.55	131.19	1,000	<200	--	49	0.71	37	20	3.7	<0.5	<0.5	<0.5	6.8	<5	<100
	11/18/02	146.74	18.36	128.38	99	<50	--	1	<0.5	<0.5	1.2	7.2	<0.5	0.59	<0.5	10	<5	<50
	2/6/03	146.74	10.19	136.55	560	<200	--	10	<0.5	4.8	<0.5	<1	<0.5	<0.5	<0.5	<5	<5	<50
	5/1/03	146.74	8.17	138.57	270	<100	--	9.3	<0.5	0.64	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	8/1/03	146.74	13.52	133.22	770	<300	--	28	<0.5	16	<0.5	1.1	<0.5	<0.5	<0.5	<5	--	--
	11/10/03	146.74	17.80	128.94	600	<200	--	12	<0.5	0.57	<0.5	0.69	<0.5	<0.5	<0.5	<5	<5	<50
	2/4/04	146.74	10.55	136.19	240	140	--	7.2	<0.5	4.3	<0.5	<0.5	--	--	--	--	--	--
	6/28/04	146.74	13.83	132.91	670	<200	--	7.4	<0.5	20	<0.5	<0.5	--	--	--	--	--	--
	9/8/04	146.74	16.37	130.37	970	<300	--	23	<0.5	27	<0.5	0.52	--	--	--	--	--	--
	12/2/04	146.74	17.91	128.83	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	3/27/05	146.74	13.70	133.04	740	<200	--	10	<0.5	41	0.61	<0.5	--	--	--	--	--	--
	6/14/05	146.74	12.55	134.19	330	<50	--	2.8	<0.5	7.7	<0.5	<0.5	--	--	--	--	--	--
	9/13/05	146.74	16.64	130.10	300	<50	--	12	<0.5	1.7	<0.5	<0.5	--	--	--	--	--	--
	12/28/05	146.74	11.55	135.19	370	--	--	3	1.9	3.6	17	<0.5	--	--	--	--	--	--
MCL				--	--	--	--	1	150	300	1,750	5						
taste & odor threshold				5	100	--	--	42	29	17	5							
NCRWQCB Cleanup Goals				<50	100	--	0.50	42	29	17	5							

Notes:

New well survey per geotracker performed in July 2002 (NGS(PID#LV1170) Aluminum Cap HPGNDCA0109 (Vista Point, Hwy 101))

DTW data for the 9/13/05 sampling event was collected on 9/14/05 following redevelopment and sampling of MW-7 (all wells except MW-7 sampled on 9/13/05)

TOC: Top of casing referenced to benchmark at (NGS(PID#LV1170) Vista Point, Hwy 101).

DTW: Depth to water as referenced to benchmark.

GWE: Ground water elevation as referenced to benchmark

$\mu\text{g/L}$ =micrograms per liter

"--": Not analyzed, available, and / or applicable

MCL: Maximum contaminant level, an enforceable drinking water standard

Taste & odor threshold: A drinking water standard

NCRWQCB: North Coast Regional Water Quality Control Board

TPHg: Total petroleum hydrocarbons as gasoline by EPA Method 8260B

TPHmo: Total petroleum hydrocarbons as motor oil by EPA Method 3550/8015M

TPHd: Total petroleum hydrocarbons as diesel by EPA Method 3550/8015M

MTBE: Methyl tertiary butyl ether by EPA Method 8260B

DIPE: Di-isopropyl ether by EPA Method 8260B

TAME: Tertiary amyl methyl ether by EPA Method 8260B

ETBE: Ethyl tertiary butyl ether by Method 8260B

TBA: Tertiary butyl alcohol by EPA Method 8260B

Table 3
SVE Air Sample Analytical Results
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Mckinleyville, California
Blue Rock Project No. NC-24

Sample I.D.	Sample Date	TPHg (mg/m3)	B (mg/m3)	T (mg/m3)	E (mg/m3)	X (mg/m3)	MTBE (mg/m3)
Inf 7/6/04 (all wells)	7/6/04	4,600	14	75	36	140	<0.5
Influent (all wells)	7/7/04	2,700	6.3	56	34	140	<0.8
VEW-1 Inf	7/8/04	3,500	42	330	82	340	1.6
VEW-2 Inf	7/8/04	2,500	5.3	90	41	190	<0.5
VEW-3 Inf	7/8/04	4,400	4.8	37	34	120	<0.5
VEW-4 Inf	7/8/04	2,200	1.5	13	27	92	<0.25
VEW-5 Inf	7/8/04	860	0.39	5	14	56	<0.2
VEW-6 Inf	7/8/04	98	<0.2	<0.2	<0.2	<0.2	<0.2
Inf 7/8/04 (all wells)	7/8/04	1,500	3.4	36	23	98	<0.25
Influent (all wells)	7/9/04	1,300	<0.4	1.1	12	47	<0.4
Influent 7/15/04	7/15/04	930	0.27	0.97	8.4	31	<0.2
Influent 7/22/04	7/22/04	970	0.3	0.94	8.1	29	<0.2
Influent 7/29/04	7/29/04	1,200	2.6	22	12	54	<0.2
Influent 8/26/04	8/26/04	3,000	5.8	32	17	95	<0.2
Influent 9/22/04	9/22/04	2,300	3.5	26	19	83	<0.6
Influent 10/14/04	10/14/04	2,700	5.8	47	27	110	<0.5
Influent 11/17/04	11/17/04	6,900	12	86	37	120	<0.5
Influent 12/21/04	12/21/04	4,200	29	120	27	94	<0.5
Influent 1/17/05	1/17/05	280	0.38	3	2.3	11	<0.2
Influent 2/7/05	2/7/05	1,600	6.70	52	14	54	<0.2
Influent 3/17/05	3/17/05	400	1.5	9.6	2.2	9.8	<0.2
Influent 3/18/05	3/18/05	1,000	3.8	26	6.7	28	<0.2
Influent 3/21/05	3/21/05	1,000	3.8	31	6.8	34	<0.2
Influent 3/22/05	3/22/05	1,500	5.4	32	7.1	34	<0.2
Influent 5/9/05	5/9/05	380	0.9	5	1.0	6	<0.2
Influent 6/9/05	6/9/05	990	3.6	20	4.0	18	<0.2
Influent 7/21/05	7/21/05	140	0.4	1.6	0.23	3.7	<0.2
Influent 8/30/05	8/30/05	1,200	7.0	37	3.4	26	<0.2
Influent 9/16/05	9/16/05	2,400	3.8	46	13	66	<0.2
Influent 10/27/05	10/26/05	2,100	6.1	62	14	91	<0.25
Influent 11/29/05	11/29/05	400	1.9	22	3.7	36	<0.2
Influent 12/20/05	12/20/05	440	0.4	7	1.1	26	<0.2

Table 3
SVE Air Sample Analytical Results
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Mckinleyville, California
Blue Rock Project No. NC-24

Sample I.D.	Sample Date	TPHg (mg/m3)	B (mg/m3)	T (mg/m3)	E (mg/m3)	X (mg/m3)	MTBE (mg/m3)
Eff 7/6/04	7/6/04	23	<0.2	0.26	<0.2	<0.2	<0.2
Effluent	7/7/04	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent	7/8/04	260	0.24	4.70	6.4	27	<0.2
Effluent	7/9/04	43	<0.2	0.63	0.17	3.9	<0.2
Effluent 7/15/04	7/15/04	<20	<0.2	<0.2	0.24	1.3	<0.2
Effluent 7/22/04	7/22/04	<20	<0.2	<0.2	<0.2	0.65	<0.2
Effluent 7/29/04	7/29/04	<20	<0.2	<0.2	<0.2	0.45	<0.2
Effluent 8/26/04	8/26/04	<20	<0.2	0.35	<0.2	0.4	<0.2
Effluent 9/22/04	9/22/04	100	0.22	2.6	1.2	6.9	<0.2
Effluent 10/14/04	10/14/04	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 11/17/04	11/17/04	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 12/21/04	12/21/04	54	0.32	0.66	<0.2	0.22	<0.2
Effluent 1/17/05	1/17/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 2/7/05	2/7/05	28	0.31	<0.2	<0.2	<0.2	<0.2
Effluent 3/17/05	3/17/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 3/18/05	3/18/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 3/21/05	3/21/05	24	<0.2	0.46	<0.2	<0.2	<0.2
Effluent 3/22/05	3/22/05	27	<0.2	0.34	<0.2	<0.2	<0.2
Effluent 5/9/05	5/9/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 6/9/05	6/9/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 7/21/05	7/21/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 8/30/05	8/30/05	22	<0.2	0.43	<0.2	<0.2	<0.2
Effluent 9/16/05	9/16/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 10/27/05	10/26/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 11/29/05	11/29/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 12/20/05	12/20/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2

Notes:

SVE	Soil vapor extraction and treatment system - 250 cfm catalytic oxidizer (catox)
Influent	Air sample collected from catox influent
Effluent	Air sample collected from catox effluent
Ops Time	Catox cumulative site operational hours
mg/m3	Milligrams per cubic meter
<#.##	Compound not detected at or below the reported laboratory detection limit
TPHg	Total Petroleum Hydrocarbons as gasoline EPA Method 8260B
BTEX	Benzene, Toluene, Ethylbenzene, and Total Xylenes by EPA Method 8260B
MTBE	Methyl tert-Butyl Ether by EPA Method 8260B

Table 4
SVE Operational Data
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Eureka California
Blue Rock Project No. NC-24

Sample Location	Sample Date	Total Ops Time (hr)	Period Ops Time (hr)	TPHg (mg/m3)	SVE Wells On	Manifold Vacuum (in. w.c.)	Flow (scfm)	TPHg Yield (lb/hr)	Average TPHg Yield (lb/hr)	Average TPHg Yield (lbs/day)	Period Yield (lb)	Cumulative Yield (lb)
Influent	7/6/04	3.50	3.50	4,600	VW-1, 2, 3, 4 ,5, 6	29.0	158	2.72	2.72	65.35	10	10
Influent	7/7/04	21.2	17.7	2,700	VW-1, 2, 3, 4 ,5, 6	30.0	194	1.96	2.34	56.22	41	51
Influent	7/8/04	47.0	25.8	1,500	VW- 2, 4 ,6	35.0	182	1.02	1.49	35.82	39	90
Influent	7/9/04	71.6	24.6	1,300	VW- 2, 4 ,6	35.0	178	0.87	0.94	22.67	23	113
Influent	7/15/04	217.0	145.4	930	VW- 2, 4 ,6	35.0	183	0.64	0.75	18.05	109	223
Influent	7/22/04	386.1	169.1	970	VW- 2, 4 ,6	35.0	237	0.86	0.75	17.99	127	349
Influent	7/29/04	553.0	166.9	1,200	VW-1, 2, 3, 4 ,5, 6	35.0	199	0.89	0.88	21.07	147	496
Influent	8/26/04	1,150.0	597.0	3,000	VW-1, 2, 3, 4 ,5, 6	35.0	150	1.69	1.29	30.96	770	1,266
Influent	9/22/04	1,793.0	643.0	2,300	VW-1, 2, 3, 4 ,5, 6	35.0	118	1.02	1.35	32.43	869	2,135
Influent	10/14/04	2,322.0	529.0	2,700	VW -1,4,6	35.0	257	2.60	1.81	43.39	956	3,091
Influent	11/17/04	3,000.0	678.0	6,900	VW -2,3,5	22.0	140	3.62	3.11	74.62	2108	5,199
Influent	12/21/04	3,430.0	430.0	4,200	VW- 3,4,6	15.0	180	2.83	3.23	77.41	1387	6,586
Influent	1/17/05	4,016.0	586.0	280	VW- 3,4,5,6	20.0	222	0.23	1.53	36.78	898	7,484
Influent	2/7/05	4,471.0	455.0	1,600	VW- 3,4,5,6	15.0	207	1.24	0.74	17.68	335	7,820
Influent	3/17/05	4,505.0	34.0	400	VW- 3,4,5,6	30.0	262	0.39	0.82	19.60	28	7,847
Influent	3/18/05	4,533.0	28.0	1,000	VW- 3,4,5,6	30.0	282	1.06	0.72	17.39	20	7,868
Influent	3/21/05	4,557.0	24.0	1,000	VW- 3,4,5,6	22.0	268	1.00	1.03	24.72	25	7,892
Influent	3/22/05	4,565.0	8.0	1,500	VW- 3,4,5,6	20.0	252	1.42	1.21	29.04	10	7,902
Influent	5/9/05	4,860.0	295.0	380	VW- 3,4,5,6	15.0	244	0.35	0.88	21.16	260	8,162
Influent	6/9/05	5,520.0	660.0	990	VW- 3,4,5,6	15.0	223	0.83	0.59	14.09	388	8,550
Influent	7/21/05	6,370.0	850.0	140	VW- 3,4,5,6	15.0	222	0.12	0.47	11.32	401	8,951
Influent	8/30/05	7,258.0	888.0	1,200	VW- 3,4,5,6	15.0	202	0.91	0.51	12.29	455	9,406
Influent	9/16/05	7,402.0	144.0	2,400	VW- 3,4,5,6	15.0	273	2.45	1.68	40.35	242	9,648
Influent	10/27/05	8,077.0	675.0	2,100	VW- 3,4,5,6	15.0	251	1.97	2.21	53.15	1495	11,143
Influent	11/29/05	8,867.0	790.0	400	VW- 3,4,5,6	15.0	235	0.35	1.16	27.92	919	12,062
Influent	12/20/05	9,271.0	404.0	440	VW- 3,4,5,6	15.0	208	0.34	0.35	8.34	140	12,201
Cumulative TPHg Recovery (pounds)											12,201	
Cumulative TPHg Recovery (gallons)											2,007	

Notes:

SVE	Soil vapor extraction and treatment system - 250 cfm catalytic oxidizer (catox)
Influent	Air sample collected from thermox influent
Total Ops Time	thermox cumulative site operational hours
Period Ops Time	Operational period: number of system operating hours since last influent air sampling
TPHg	Total Petroleum Hydrocarbons as gasoline EPA Method 8260B
mg/m3	Milligrams per cubic meter
<###	Compound not detected at or below the reported laboratory detection limit
Vacuum	Vacuum applied to well manifold
in. w.c.	Inches water column
Flow	Process volumetric flow (Q) measured with a flow averaging pitot tube
scfm	Standard cubic feet per minute
lb	Pound
TPHg Yield	Approximate TPHg yield (lb/hr) based on influent analytical data and air flow (Q) for a given date Yield (lbs/hr) = Influent concentration (mg/m3) x Q (scfm) x (m3/35.31 ft3) x 60 min/hr x lb/453,592 mg Yield (lbs/day) = Yield (lbs/hr) x (24 hr/day)
Avg. TPHg Yield	Average hydrocarbon yield during a given operational period; based upon arithmetic average of TPHg yield at beginning and end of operational period.
Period Yield	The Period Ops Time (hr) x Average TPHg yield (lbs/hr) during that period. Note that this value is an approximation only, and may not account for daily fluctuations in yield.
Cumulative Recovery	Estimated Estimated total SVE system TPHg recovery since startup.

Table 5
SVE Catox System Treatment Data
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Blue Rock Project No. NC-24

AQMD Permit Requirements:	Sample Date	Ops Time (hr)	TPHg (mg/m ³)	TPHg DE (%)	Flow (scfm)	Daily Emissions Rate
						TPHg (lb/day)
Influent	7/6/04		4,600			
Effluent	7/6/04	3.50	23	99.5%	158	0.33
Influent	7/7/04		2,700			
Effluent	7/7/04	21	<20	>99.3%*	194	<0.35*
Influent	7/8/04		1,500			
Effluent	7/8/04	47	260	82.7%	182	4.25
Influent	7/9/04		1,300			
Effluent	7/9/04	72	43	96.7%	178	0.69
Influent	7/15/04		930			
Effluent	7/15/04	217	<20	>97.8%*	183	<0.33*
Influent	7/22/04		970			
Effluent	7/22/04	386	<20	>97.9%*	237	<0.43*
Influent	7/29/04		1,200			
Effluent	7/29/04	553	<20	>98.3%*	199	<0.36*
Influent	8/26/04		3,000			
Effluent	8/26/04	1,150	<20	>99.3%*	150	<0.27*
Influent	9/22/04		2,300			
Effluent	9/22/04	1,793	100	95.7%	118	1.06
Influent	10/14/04		2,700			
Effluent	10/14/04	2,322	<20	>99.3%*	257	<0.46*
Influent	11/17/04		6,900			
Effluent	11/17/04	3,000	<20	>99.7%*	140	<0.25*
Influent	12/21/04		4,200			
Effluent	12/21/04	3,430	<20	>99.5%*	180	<0.32*
Influent	1/17/05		280			
Effluent	1/17/05	4,016	<20	>92.9%*	222	<0.40*
Influent	2/7/05		1,600			
Effluent	2/7/05	4,471	28	98.3%	207	0.52
Influent	3/17/05		400			
Effluent	3/17/05	4,505	<20	>95.0%*	262	<0.47*
Influent	3/18/05		1,000			
Effluent	3/18/05	4,533	<20	>98.0%*	282	0.51
Influent	3/21/05		1,000			
Effluent	3/21/05	4,557	24	97.6%	268	<0.58*
Influent	3/22/05		1,500			
Effluent	3/22/05	4,565	27	98.2%	252	0.61
Influent	5/9/05		380			
Effluent	5/9/05	4,860	<20	>94.7%*	244	<0.44*

Table 5
SVE Catox System Treatment Data
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Blue Rock Project No. NC-24

AQMD Permit Requirements:	Sample Date	Ops Time (hr)	TPHg (mg/m ³)	TPHg DE (%)	Flow (scfm)	Daily Emissions Rate	
						TPHg (lb/day)	
Influent	6/9/05	5,520	990				
Effluent	6/9/05		<20	>98.0%*	223	<0.40*	
Influent	7/21/05	6,370	140				
Effluent	7/21/05		<20	>85.7%*	222	<0.40*	
Influent	8/30/05	7,258	1,200				
Effluent	8/30/05		22	98.3%	202	0.40	
Influent	9/16/05	7,402	2,400				
Effluent	9/16/05		<20	>99.2%*	273	<0.49*	
Influent	10/27/05	8,077	2,100				
Effluent	10/27/05		<20	>99.0%*	251	<0.42*	
Influent	11/29/05	8,867	400				
Effluent	11/29/05		<20	>95.0%*	235	<0.45*	
Influent	12/20/05	9,271	440				
Effluent	12/20/05		<20	>95.0%*	208	<0.37*	
				Avg.TPHg DE (%)	Avg. Flow (cfm)	Avg. Daily Emissions TPHg (lb/day)	
				>92.9%	213	<0.60	

System Operations/Emissions In Compliance: YES

Notes:

SVE	Soil vapor extraction and treatment system - 250 cfm catalytic oxidizer (catox)
Influent	Air sample collected from catox influent
Effluent	Air sample collected from catox effluent (exhaust)
Ops Time	catox cumulative site operational hours
TPHg	Total Petroleum Hydrocarbons as gasoline by EPA Method 8260B
mg/m ³	Milligrams per cubic meter
<#.#	Compound not detected at or below the reported laboratory detection limit
Avg.	Average (averages based on monthly and startup data)
Flow	Process volumetric flow (Q) measured with a flow averaging pitot tube
scfm	Standard cubic feet per minute
lb	Pound
TPHg DE	TPHg (laboratory analyzed) destruction efficiency based on equation :
Emissions Rate	TPHg DE = (influent concentration TPHg - effluent concentration TPHg)/influent concentration TPHg x 100 Analyte Emissions Rate (lb/day) based upon effluent analytical data and air flow volume (Q) for a given date Emiss. Rate = Effluent concentration (mg/m ³) x Q (scfm) x (m ³ /35.31 ft ³) x 1440 min/day x lb/453,592 mg Emiss. Rate = Effluent concentration (mg/m ³) x Q (scfm) x 8.9908 E-5

* Indicates that detection limit of "non-detect" effluent sample was used as concentration value to calculate DE and emissions as most conservative, worst-case scenario.

Table 6
SVE Catox Emissions Calculations
ATC Permit # NAC - 380
Former Central BP
2160 Central Ave.
McKinleyville, CA
Blue Rock Project No. NC - 24

Effluent Contaminant Concentrations

Sample ID	TPHg (mg/m ³)	TPHg (ppmv)	Benzene (mg/m ³)	Benzene (ppmv)	Toluene (mg/m ³)	Toluene (ppmv)	Ethlybenz. (mg/m ³)	Ethlybenz. (ppmv)	Xylenes (mg/m ³)	Xylenes (ppmv)	MTBE (mg/m ³)	MTBE (ppmv)
AQMD Limits		3,569		0.138		2.4		2.74		11.61		0.069
EFF 7/6/04	23	5.4	0.20	0.050	0.26	0.063	0.20	0.050	0.20	0.050	0.20	0.10
EFF 7/7/04	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 7/8/04	260	61	0.24	0.068	4.70	1.15	6.4	1.4	27	5.8	0.20	0.10
EFF 7/9/04	43	10	0.20	0.050	0.63	0.15	0.79	0.17	3.9	0.82	0.20	0.10
EFF 7/15/04	20	5.0	0.20	0.050	0.20	0.050	0.24	0.051	1.3	0.28	0.20	0.10
EFF 7/22/04	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.65	0.14	0.20	0.10
EFF 7/29/04	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.45	0.095	0.20	0.10
EFF 8/26/04	20	5.0	0.20	0.050	0.35	0.084	0.20	0.050	0.40	0.10	0.20	0.10
EFF 9/22/04	100	24	0.22	0.063	2.60	0.64	1.2	0.24	6.9	1.5	0.20	0.10
EFF 10/14/04	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 11/17/04	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 12/21/04	54	13	0.32	0.093	0.66	0.16	0.20	0.050	0.20	0.050	0.20	0.10
EFF 1/17/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 2/7/05	28	6.5	0.20	0.050	0.31	0.075	0.20	0.050	0.20	0.050	0.20	0.10
EFF 3/17/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 3/18/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 3/21/05	24	6.2	0.20	0.050	0.46	0.12	0.20	0.050	0.20	0.050	0.20	0.10
EFF 3/22/05	27	6.8	0.20	0.050	0.34	0.090	0.20	0.050	0.20	0.050	0.20	0.10
EFF 5/9/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 6/9/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 7/21/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 8/30/05	22	5.5	0.20	0.050	0.43	0.11	0.20	0.050	0.20	0.050	0.20	0.10
EFF 9/16/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 10/27/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 11/29/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 12/20/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
AQMD Compliance	yes		yes		yes		yes		yes		yes	

Note: **Bold** values shown above are actual detected concentrations, whereas plain values shown above are detection limits of "non-detect" samples used for the sake of worst case scenario emissions calculations (actual concentrations are lower).

Table 6
SVE Catox Emissions Calculations
ATC Permit # NAC - 380
Former Central BP
2160 Central Ave.
Mckinleyville, CA
Blue Rock Project No. NC - 24

Emissions Calculation Variables																
EFF	Q2 (scfm)	A	B1	B2	B3	B4	B5	B6	C	D	E1	E2	E3	E4	E5	E6
		TPHg	Benzene	Toluene	Ethylbenz.	Xylenes	MTBE	conversion (min/day)	conversion 1/360	TPHg (mw) (lb/mol)	Benz (mw) (lb/mol)	Toluene (mw) (lb/mol)	Ethylben (mw) (lb/mol)	Xylenes (mw) (lb/mol)	MTBE (mw) (lb/mol)	
EFF 7/6/04	158	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 7/7/04	197	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 7/8/04	182	0.00006	0.0000001	0.0000011	0.00000136	0.00000580	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 7/9/04	178	0.00001	0.0000001	0.0000002	0.00000017	0.00000082	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 7/15/04	183	0.00001	0.0000001	0.0000001	0.0000005	0.00000028	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 7/22/04	237	0.00001	0.0000001	0.0000001	0.0000005	0.00000014	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 7/29/04	199	0.00001	0.0000001	0.0000001	0.0000005	0.00000009	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 8/26/04	150	0.00001	0.0000001	0.0000001	0.0000005	0.00000010	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 9/22/04	118	0.00002	0.0000001	0.0000006	0.00000024	0.00000153	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 10/14/04	257	0.00001	0.0000001	0.0000001	0.0000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 11/17/04	140	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 12/21/04	180	0.00001	0.0000001	0.0000002	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 1/17/05	222	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 2/7/05	207	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 3/17/05	262	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 3/18/05	282	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 3/21/05	268	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 3/22/05	252	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 5/9/05	244	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 6/9/05	223	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 7/21/05	222	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 8/30/05	202	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 9/16/05	273	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 10/27/05	251	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 11/29/05	235	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	
EFF 12/20/05	208	0.00001	0.0000001	0.0000001	0.0000005	0.0000005	0.00000010	1441	0.0028	86.2	78.1	106.2	92.1	106.2	88.2	

Table 6
SVE Catox Emissions Calculations
ATC Permit # NAC - 380
Former Central BP
2160 Central Ave.
Mckinleyville, CA
Blue Rock Project No. NC - 24

Hydrocarbons Emissions:						
	TPHg (lb/day)	Benzene (lb/day)	Toluene (lb/day)	Ethylbenzene (lb/day)	Xylenes (lb/day)	MTBE (lb/day)
AQMD Permit Limits	219.12	0.0601	1.234	1.621	6.869	0.034
EFF 7/6/04	0.29	0.0001	0.004	0.003	0.003	0.006
EFF 7/7/04	0.34	0.0002	0.004	0.004	0.004	0.007
EFF 7/8/04	3.83	0.0002	0.089	0.091	0.448	0.006
EFF 7/9/04	0.61	0.0002	0.012	0.011	0.062	0.006
EFF 7/15/04	0.32	0.0002	0.004	0.003	0.022	0.006
EFF 7/22/04	0.41	0.0002	0.005	0.004	0.014	0.008
EFF 7/29/04	0.34	0.0002	0.004	0.004	0.008	0.007
EFF 8/26/04	0.26	0.0001	0.005	0.003	0.006	0.005
EFF 9/22/04	0.98	0.0001	0.032	0.011	0.077	0.004
EFF 10/14/04	0.44	0.0002	0.005	0.005	0.005	0.009
EFF 11/17/04	0.24	0.0001	0.003	0.003	0.003	0.005
EFF 12/21/04	0.81	0.0003	0.012	0.003	0.004	0.006
EFF 1/17/05	0.38	0.0002	0.005	0.004	0.005	0.008
EFF 2/7/05	0.46	0.0002	0.007	0.004	0.004	0.007
EFF 3/17/05	0.45	0.0002	0.006	0.005	0.006	0.009
EFF 3/18/05	0.49	0.0003	0.006	0.005	0.006	0.010
EFF 3/21/05	0.57	0.0003	0.014	0.005	0.006	0.009
EFF 3/22/05	0.59	0.0002	0.010	0.005	0.005	0.009
EFF 5/9/05	0.42	0.0002	0.005	0.004	0.005	0.009
EFF 6/9/05	0.38	0.0002	0.005	0.004	0.005	0.008
EFF 7/21/05	0.38	0.0002	0.005	0.004	0.005	0.008
EFF 8/30/05	0.38	0.0002	0.009	0.004	0.004	0.007
EFF 9/16/05	0.47	0.0003	0.006	0.005	0.006	0.010
EFF 10/27/05	0.43	0.0002	0.005	0.005	0.005	0.009
EFF 11/29/05	0.40	0.0002	0.005	0.004	0.005	0.008
EFF 12/20/05	0.36	0.0002	0.004	0.004	0.004	0.007
AQMD Compliance	yes	yes	yes	yes	yes	yes

Note: Emissions rates shown above represent conservative, worst scenario because the effluent concentrations are often "non-detect" and the detection limit is used for calculation of emission rate. Thus, actual emission rate is often lower.

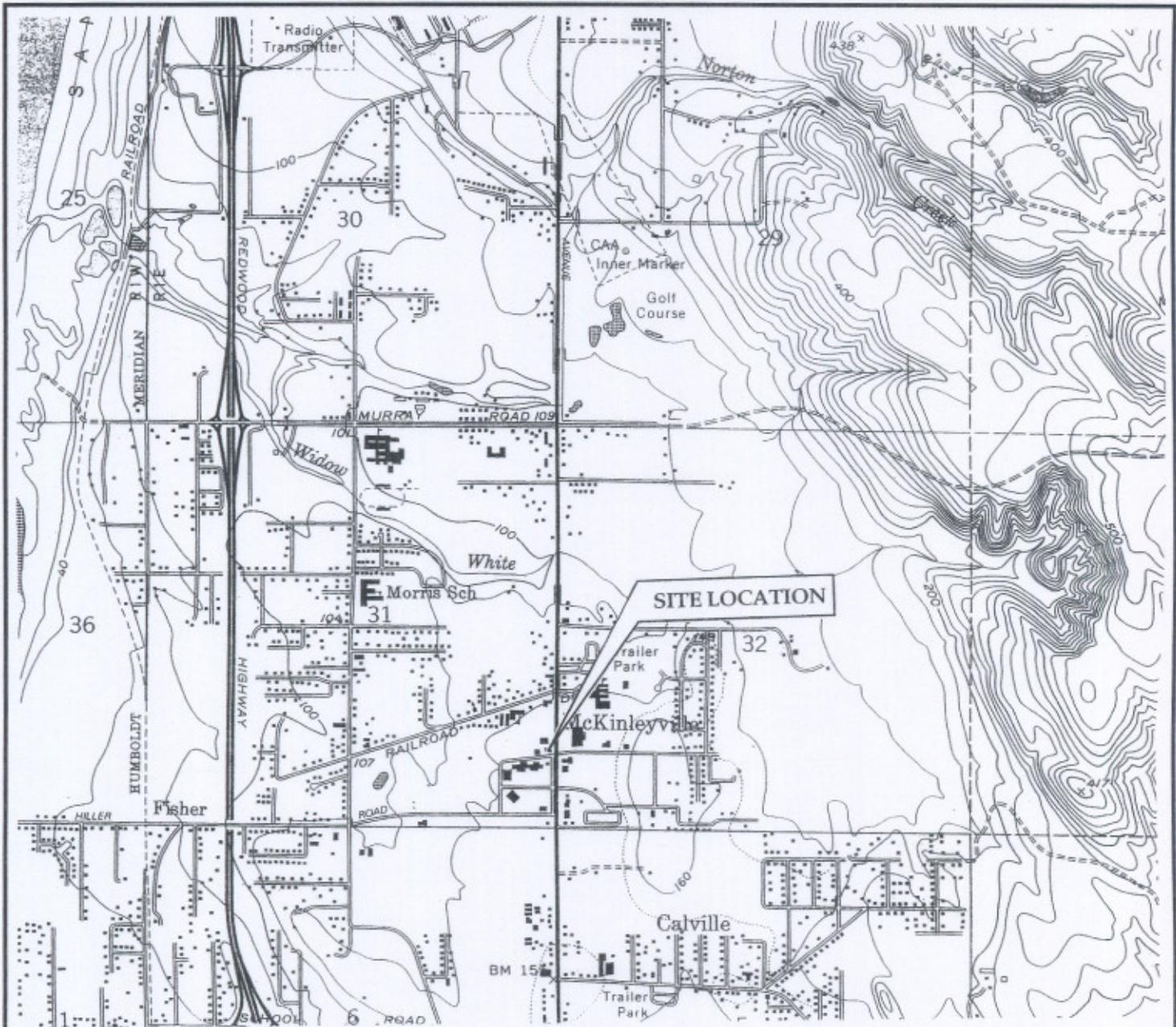
Calculations:

$$\begin{aligned} \text{TPHg (lb/day)} &= A * B1 * C * D * E1 \\ \text{Benzene (lb/day)} &= A * B2 * C * D * E2 \\ \text{Toluene (lb/day)} &= A * B3 * C * D * E3 \\ \text{Ethylbenzene (lb/day)} &= A * B4 * C * D * E4 \\ \text{Xylenes (lb/day)} &= A * B5 * C * D * E5 \\ \text{MTBE (lb/day)} &= A * B6 * C * D * E6 \end{aligned}$$

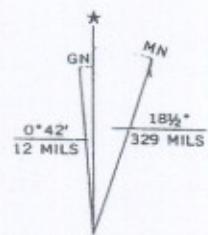
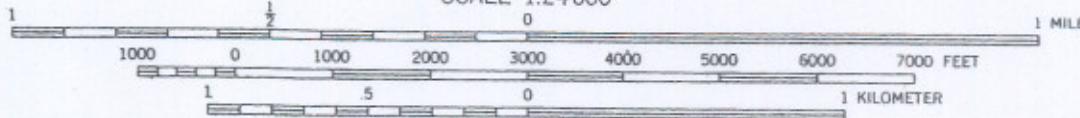
where:

$$\begin{aligned} A: &\text{ flow rate in standard cubic feet per minute (scfm)} \\ B1: &\text{ (Concentration of TPHg in ppmv)/1,000,000} \\ B2: &\text{ (Concentration of Benzene in ppmv)/1,000,000} \\ B3: &\text{ (Concentration of Toluene in ppmv)/1,000,000} \\ B4: &\text{ (Concentration of Ethylbenzene in ppmv)/1,000,000} \\ B5: &\text{ (Concentration of Xylenes in ppmv)/1,000,000} \\ B6: &\text{ (Concentration of MTBE in ppmv)/1,000,000} \\ C: &\text{ Conversion from minutes to day} \\ D: &\text{ Conversion for standard conditions (Assume Ideal Gas Law holds true)} \\ E1: &\text{ Molecular weight of TPHg - 86.2 lb/lb-mol} \\ E2: &\text{ Molecular weight of Benzene - 78.1 lb/lb-mol} \\ E3: &\text{ Molecular weight of Toluene - 106.2 lb/lb-mol} \\ E4: &\text{ Molecular weight of Ethylbenzene - 92.1 lb/lb-mol} \\ E5: &\text{ Molecular weight of Xylenes - 106.2 lb/lb-mol} \\ E6: &\text{ Molecular weight of MTBE - 88.2 lb/lb-mol} \end{aligned}$$

FIGURES



SCALE 1:24000



CONTOUR INTERVAL 20 FEET
 DOTTED LINES REPRESENT 10-FOOT CONTOURS
 DATUM IS MEAN SEA LEVEL
 SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
 THE MEAN RANGE OF TIDE IS APPROXIMATELY 4 FEET

UTM GRID AND 1972 MAGNETIC NORTH
 DECLINATION AT CENTER OF SHEET

Site Location Map

Former Central BP Station
 2160 Central Avenue
 McKinleyville, California

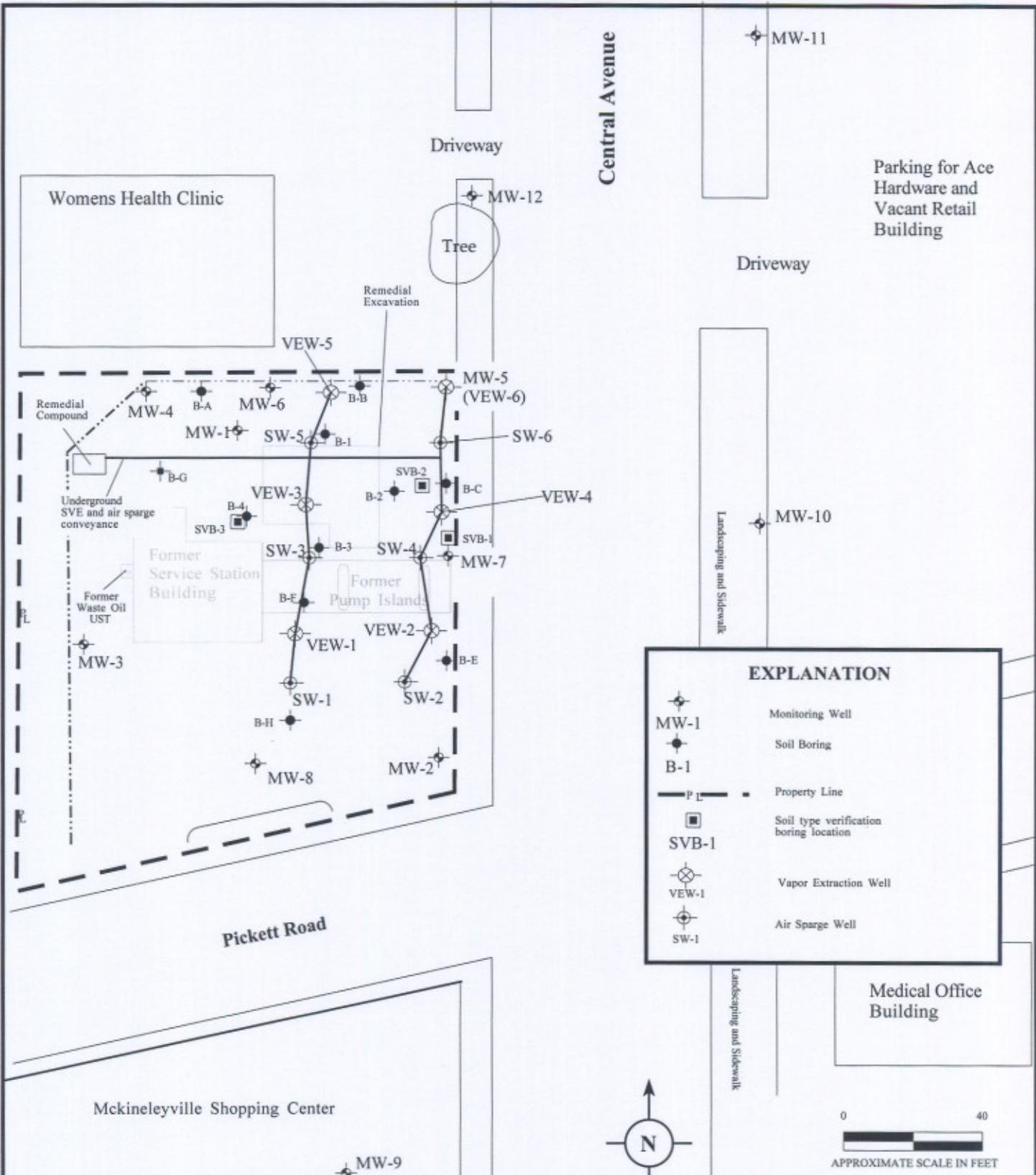


BLUE ROCK
 ENVIRONMENTAL, INC.

Project No.
 NC-24

Date
 1/06

Figure
 1



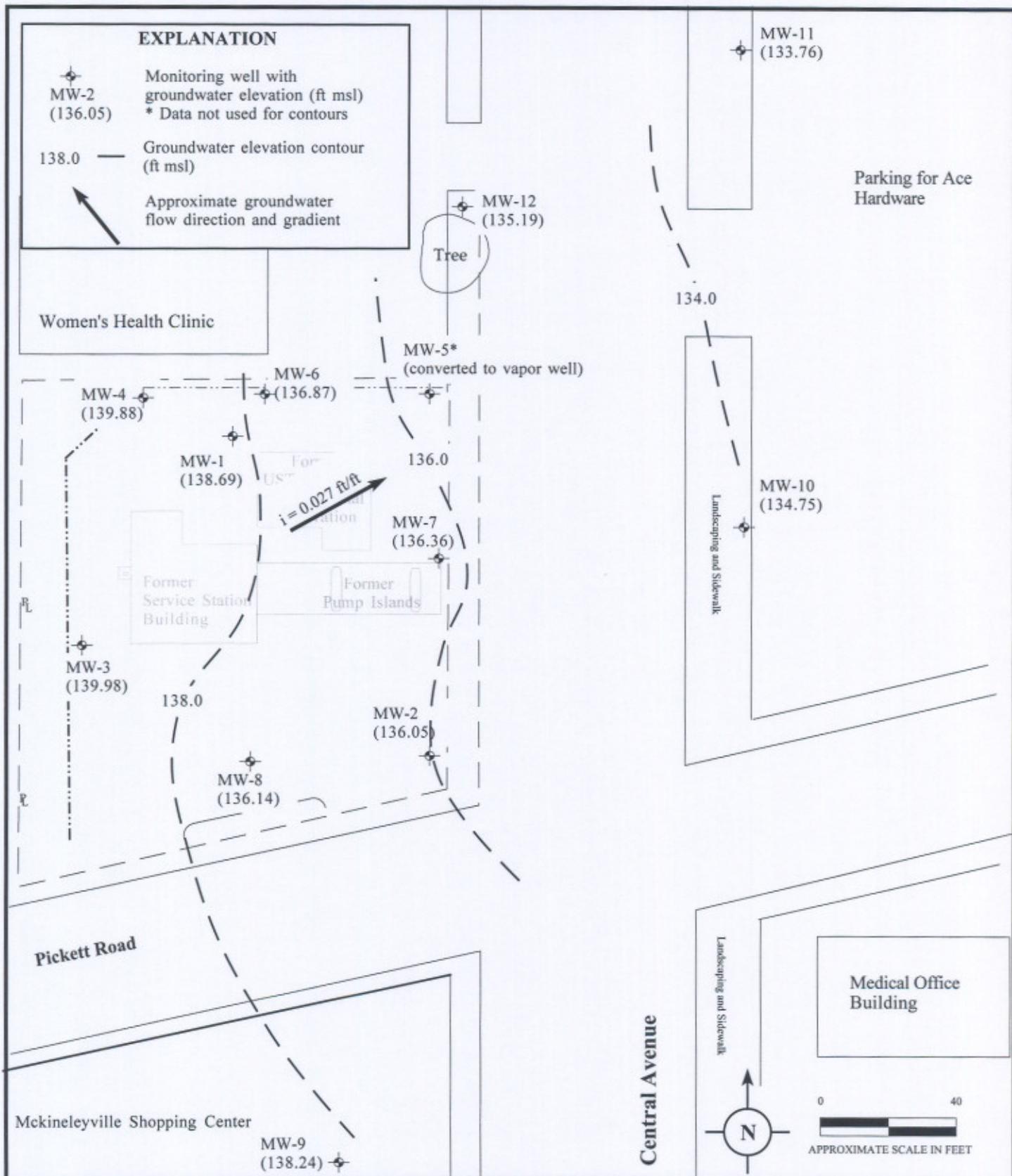
Site Plan
Former Central BP Station
2160 Central Avenue
McKinleyville, California

**BLUE ROCK
ENVIRONMENTAL, INC.**

Project No.
NC-24

Report Date
1/06

Figure
2



Groundwater Elevation and Gradient -12/28/05

Former Central BP Station
2160 Central Avenue
McKinleyville, California

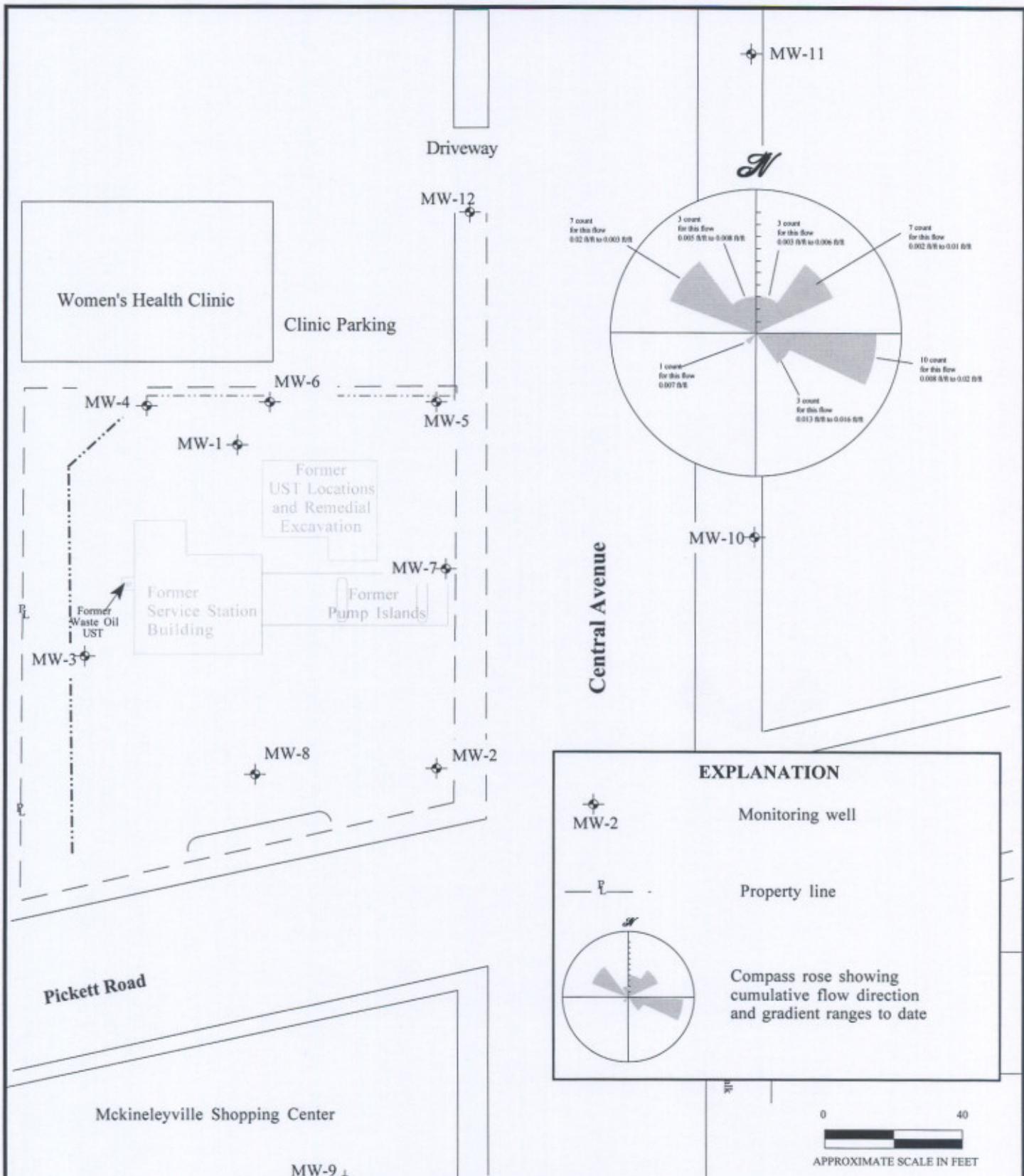


**BLUE ROCK
ENVIRONMENTAL, INC.**

Project No.
NC-24

Report Date
1/06

Figure
3



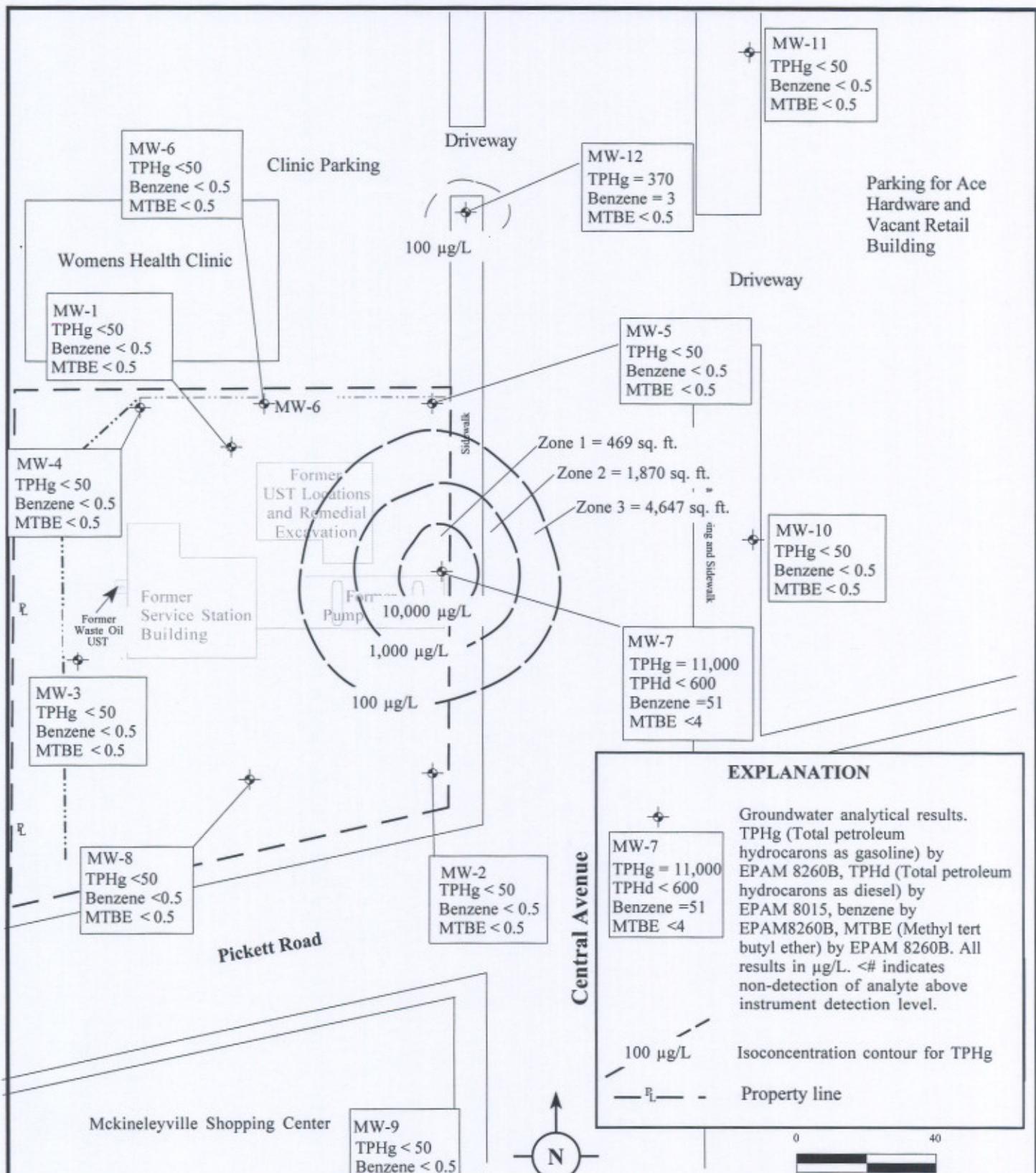
Cumulative Flow Direction and Gradient 6/99 to 12/05
 Former Central BP Station
 2160 Central Avenue
 McKinleyville, California

 **BLUE ROCK
ENVIRONMENTAL, INC.**

Project No.
NC-24

Report Date
1/06

Figure
4



Dissolved-Phase Hydrocarbon (TPHg) Distribution 12/28/05

Former Central BP Station
2160 Central Avenue
McKinleyville, California

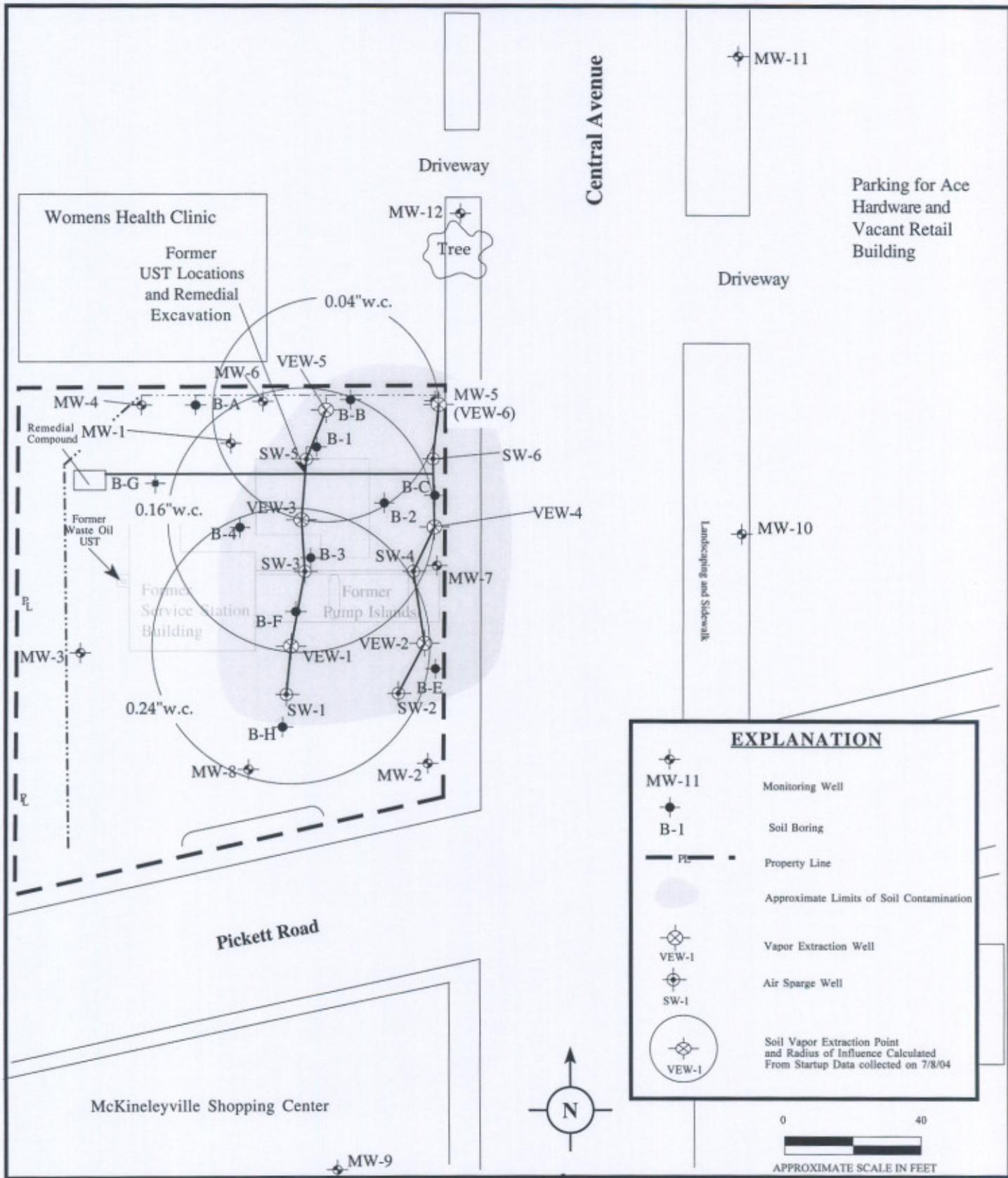


BLUE ROCK
ENVIRONMENTAL, INC.

Project No.
NC-24

Report Date
1/06

Figure
5



SVE Layout and Radius of Influence (VEW1, 3, 5)

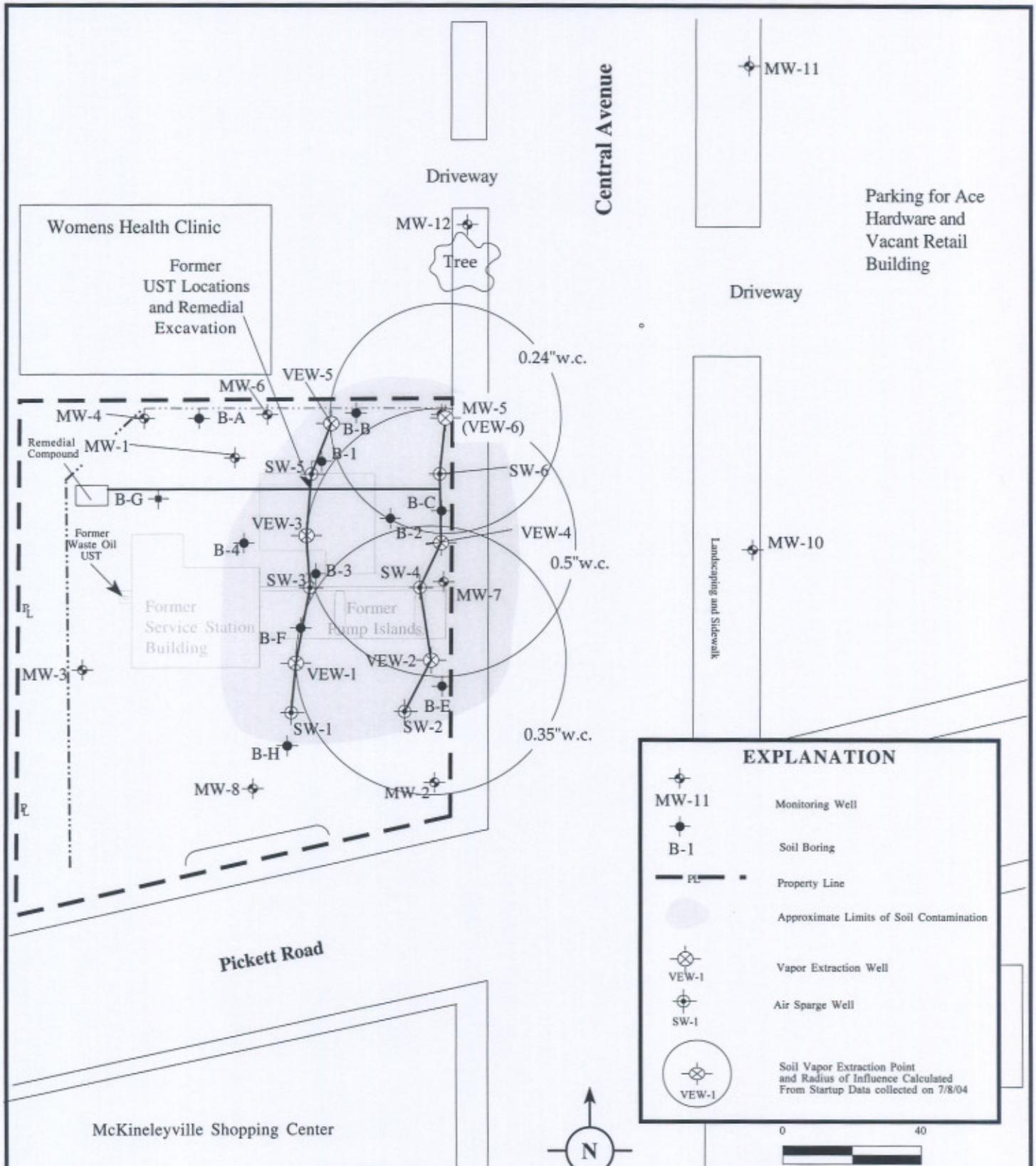
Former Central BP Station
2160 Central Avenue
McKinleyville, California

 BLUE ROCK
ENVIRONMENTAL, INC.

Project No.
NC-24

Report Date
1/06

Figure
6a



SVE Layout and Radius of Influence (VEW2,4,6)

Former Central BP Station
2160 Central Avenue
McKinleyville, California

 **BLUE ROCK
ENVIRONMENTAL, INC.**

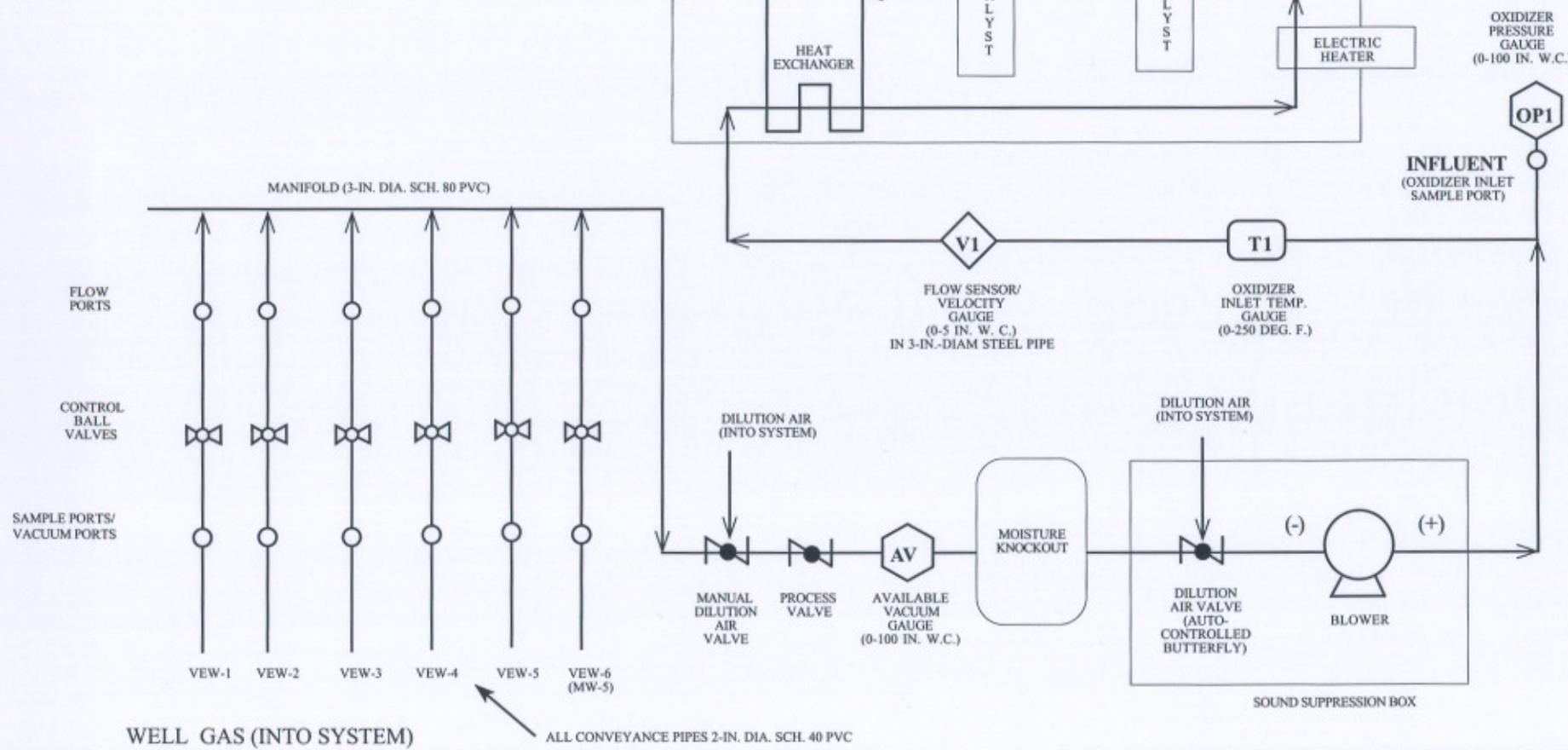
Project No.
NC-24

Report Date
1/06

Figure
6b

DRAWING
NOT TO SCALE

CATALYTIC-OXIDIZER EXHAUST
(OUT OF SYSTEM)



Catox and Well Manifold Schematic

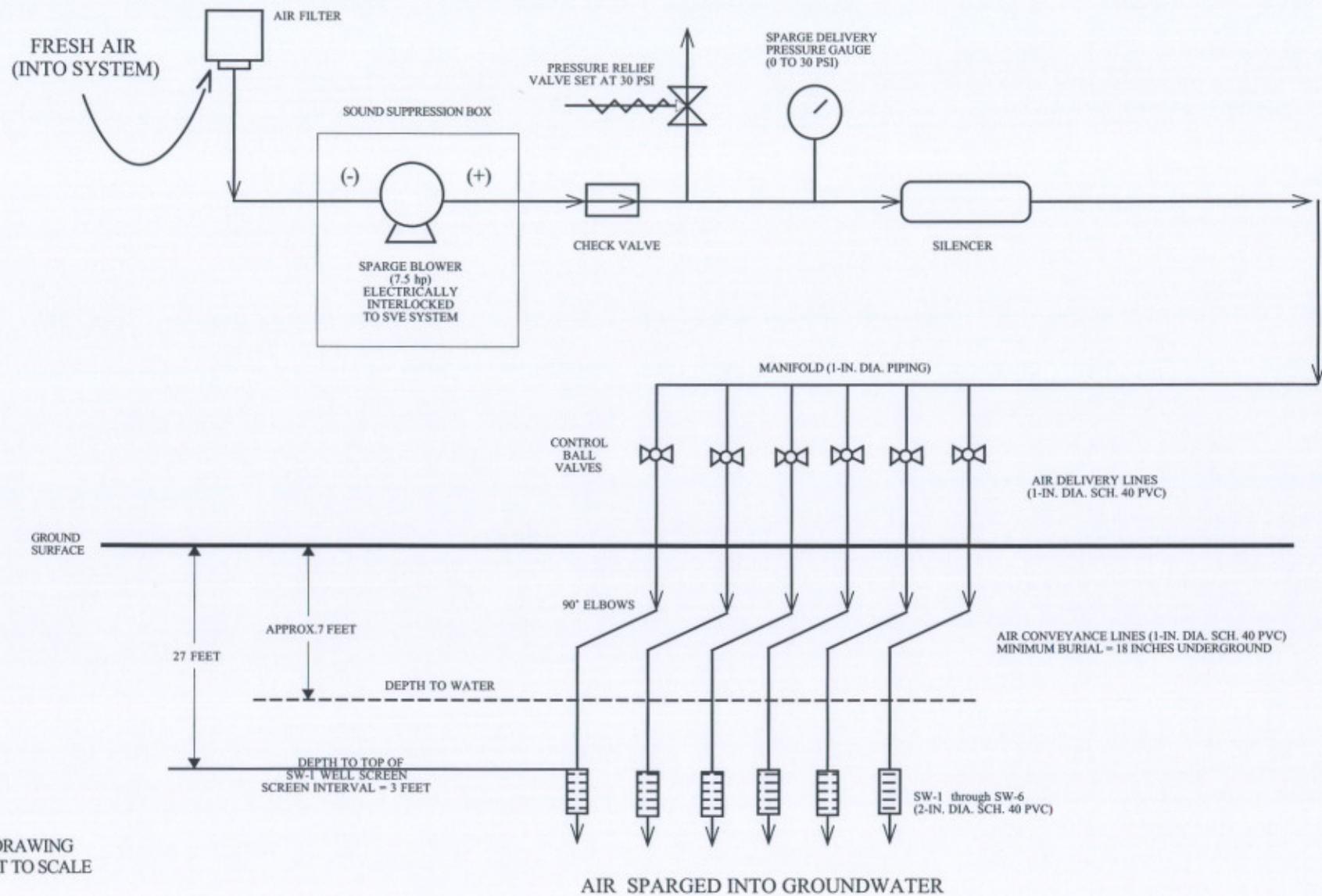
Former Central Bp Station
2616 Central Avenue
McKinleyville, California

 **BLUE ROCK
ENVIRONMENTAL, INC.**

Project No.
NC-24

Report Date
1/06

Figure
7



Air-Sparge Blower And Well Manifold Schematic

Former Central Bp Station
2616 Central Avenue
McKinleyville, California



BLUE ROCK
ENVIRONMENTAL, INC.

Project No.
NC-24

Report Date
1/06

Figure
8

APPENDIX A

GAGING DATA/PURGE CALCULATIONS

Job No.: NC-24 Location: 2160 Central Ave.

Date: 12/28/05 Tech(s): JL

Explanation:

DIA. = Well Diameter

DTB = Depth to Bottom

DTW = Depth to Water

ST = Saturated Thickness (DTB-DTW)

CV = Casing Volume (ST x cf)

PV = Purge Volume (standard 3 x CV,
well development 10 x CV)

SPH = Thickness of Separate Phase Hydrocarbons

Conversion Factors (cf):

2 in. dia. well cf = 0.16 gal./ft.

4 in. dia. well cf = 0.65 gal./ft.

6 in. dia. well cf = 1.44 gal./ft.



BLUE ROCK
ENVIRONMENTAL, INC.

PURGING DATA

SHEET 1 OF 4

Job No.: NC-24 Location: 2160 Central Ave Date: 12/28/05 Tech: JL

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-1			--	--	--	Sample for:
Calc. purge volume	11:45	0.25	160	59.0	5.57	TPHg TPHd 8260
4.95	11:50	2.50		60.3		BTEX MTBE Metals
	11:55	4.90	PH	med/eu		Purging Method:
			failed			PVC bailer / Pump
						Sampling Method:
						Dedicated / Disposable bailer
						Sample at: 12:00

COMMENTS: color, turbidity, recharge, sheen
clear/mod/mod/no sheen/no odor

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-2			--	--	--	Sample for:
Calc. purge volume	11:25	0.25	221	57.7	5.23	TPHg TPHd 8260
4.92	11:30	2.50	75	58.4	4.71	BTEX MTBE Metals
	11:35	4.90	57	58.6	4.56	Purging Method:
						PVC bailer / Pump
						Sampling Method:
						Dedicated / Disposable bailer
						Sample at: 11:40

COMMENTS: color, turbidity, recharge, sheen
clear/mod/mod/no sheen/no odor

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-3			--	--	--	Sample for:
Calc. purge volume	11:05	0.25	394	55.6	5.88	TPHg TPHd 8260
5.82	11:10	2.50	164	55.6	5.34	BTEX MTBE Metals
	11:15	5.80	127	55.6	5.19	Purging Method:
						PVC bailer / Pump
						Sampling Method:
						Dedicated / Disposable bailer
						Sample at: 11:20

COMMENTS: color, turbidity, recharge, sheen
clear/mod/mod/no sheen/no odor

PURGING DATA

SHEET 2 OF 4

Job No.: NC-24 Location: 2160 Central Ave. Date: 12/28/05 Tech: JL

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-4			--	--	--	Sample for:
Calc. purge volume	12:05	0.25			5.12	TPHg TPHd 8260
	12:10	3.00	PH meter			BTEX MTBE Metals
6.24	12:15	6.25	Failed			Purging Method:
						PVC bailer / Pump
	COMMENTS: color, turbidity, recharge, sheen					Sampling Method:
	clear / mod / mod / no sheen / no odor					Dedicated / Disposable bailer
						Sample at: 12:20

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-5			--	--	--	Sample for:
Calc. purge volume		PH	meter failed			TPHg TPHd 8260
5.28						BTEX MTBE Metals
						Purging Method:
						PVC bailer / Pump
	COMMENTS: color, turbidity, recharge, sheen					Sampling Method:
	clear / mod / mod / poor / no sheen / no odor					Dedicated / Disposable bailer
						Sample at: 12:35

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-6			--	--	--	Sample for:
Calc. purge volume		PH	meter failed			TPHg TPHd 8260
5.10						BTEX MTBE Metals
						Purging Method:
						PVC bailer / Pump
	COMMENTS: color, turbidity, recharge, sheen					Sampling Method:
	clear / mod / mod / no sheen / odor					Dedicated / Disposable bailer
						Sample at: 12:45

PURGING DATA

SHEET 3 OF 4

Job No.: NC-24

Location: 2160 Central Ave. Date: 12/28/05 Tech: JL

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-7			---	---	---	Sample for:
Calc. purge volume						TPHg TPHd 8260
4.32		PtH	meter failed			BTEX MTBE Metals
						Purging Method:
						PVC bailer / Pump
						Sampling Method:
						Dedicated / Disposable bailer
						Sample at: 13:00

COMMENTS: color, turbidity, recharge, sheen

clear/heavy/mod/no sheen/odor

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-8			---	---	---	Sample for:
Calc. purge volume		PtH	meter failed			TPHg TPHd 8260
6.36						BTEX MTBE Metals
						Purging Method:
						PVC bailer / Pump
						Sampling Method:
						Dedicated / Disposable bailer
						Sample at: 13:15

COMMENTS: color, turbidity, recharge, sheen

clear/mod/mod/no sheen/no odor

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-9			---	---	---	Sample for:
Calc. purge volume		PtH	meter failed			TPHg TPHd 8260
5.43						BTEX MTBE Metals
						Purging Method:
						PVC bailer / Pump
						Sampling Method:
						Dedicated / Disposable bailer
						Sample at: 13:30

COMMENTS: color, turbidity, recharge, sheen

clear/low/good/no sheen/no odor

PURGING DATA

SHEET 4 OF 4

Job No.: NC-24 Location: 2160 Central Ave Date: 12/28/05 Tech: JL

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH
-------------	------	------------------	------------------	--------------------	----

MW-10			--	--	---
Calc. purge volume		pH meter	Failed		
5.34					

Sample for:

TPHg TPHd 8260

BTEX MTBE Metals

Purging Method:

PVC bailer / Pump

Sampling Method:

Dedicated / Disposable bailed

Sample at: 13:45

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH
-------------	------	------------------	------------------	--------------------	----

MW-11			--	--	---
Calc. purge volume					
5.31		pH meter	Failed		

Sample for:

TPHg TPHd 8260

BTEX MTBE Metals

Purging Method:

PVC bailer / Pump

Sampling Method:

Dedicated / Disposable bailed

Sample at: 14:00

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH
-------------	------	------------------	------------------	--------------------	----

MW-12			--	--	---
Calc. purge volume					
6.45		pH meter	Failed		

Sample for:

TPHg TPHd 8260

BTEX MTBE Metals

Purging Method:

PVC bailer / Pump

Sampling Method:

Dedicated / Disposable bailed

Sample at: 14:15

NC-24

Former McKinleyville BP

REMEDIATION SYSTEM O&M FORM

DATE	10/27/05
TECH.	AL

	ARRIVAL	DEPARTURE	
Time	12:00		
SYSTEM STATUS	up	up	(up/down)
Manual Dilution Valve Position	6	8	% open
Vacuum (AV)	20	20	in. H2O
TPH Concentration In (Influent)	230	230	ppm
Well + Dilution Air Flow Rate (V1)	251		scfm
Oxidizer Pressure (OP1)	—	—	in. H2O
Temperature Controller (T1)	689	750	°F
Recirculation valve position	2	2	# Turns open
TPH Concentration Out (Effluent)	0	0	ppm
Unit Operational Time			hours

S077 (check)

	CHECKED	REPLACED
Water Knockout Liquid level	✓	
Sparge Air Compressor Filter	✓	
Grease Zerk Fittings	✓	✓
Blower Oil	✓	

Extraction Wells	Vac. in. H2O	depth to water feet	valve position % open (on/off)	OVM reading ppm
VE-1	6	217	0	0
VE-2	0	1	0	0
VE-3	20		100	130
VE-4	21		100	300
VE-5	19		100	200
VE-6 (MW-5)	19	↓	100	100

Air Sparging Wells	sparge press. in. SCFM	depth to water feet	valve position % open (on/off)
SW-1	0	217	0
SW-2	6	1	0
SW-3	6.8		100
SW-4	8		100
SW-5	6.8	↓	100
SW-6	6.0		100

Remarks:

Water Drums Onsite

NC-24

Former McKinleyville BP

REMEDIATION SYSTEM O&M FORM

DATE	11/29/05
TECH.	(AD)

	ARRIVAL	DEPARTURE	
Time	10:00	11:00	
SYSTEM STATUS	WP	WP	(up/down)
Manual Dilution Valve Position	0	0	% open
Vacuum (AV)	20	20	in. H2O
TPH Concentration In (Influent)	2550		ppm
Well + Dilution Air Flow Rate (V1)	235		scfm
Oxidizer Pressure (OP1)	—	—	in. H2O
Temperature Controller (T1)	69.5		°F
Recirculation valve position	1.5		# Turns open
TPH Concentration Out (Effluent)	6		ppm
Unit Operational Time	0000.0		hours

	CHECKED	REPLACED
Water Knockout Liquid level	✓	
Sparge Air Compressor Filter	✓	
Grease Zerk Fittings	✓	
Blower Oil	✓	

Extraction Wells	Vac. in. H2O	depth to water feet	valve position % open (on/off)	OVM reading ppm
VE-1				
VE-2				
VE-3	20	≈ 15'	100	
VE-4	20			
VE-5	20	↓		
VE-6 (MW-5)	20	↓	↓	

Air Sparging Wells	sparge press. in. SCFM	depth to water feet	valve position % open (on/off)
SW-1			
SW-2			
SW-3	5psi / 6.5cm	≈ 15	100
SW-4	5psi / 8cm	↓	↓
SW-5	5psi / 6.8cm	↓	↓
SW-6	7psi / 6.2cm	↓	↓

Remarks: _____

Water Drums Onsite _____

NC-24

Former McKinleyville BP

REMEDIATION SYSTEM O&M FORM

DATE	12/20
TECH.	(AC)

1300

	ARRIVAL	DEPARTURE	
Time	1000	1400	
SYSTEM STATUS	down	up	(up/down)
Manual Dilution Valve Position	0	0	% open
Vacuum (AV)	20	20	in. H2O
TPH Concentration In (Influent)		10	ppm
Well + Dilution Air Flow Rate (V1)		208	scfm
Oxidizer Pressure (OP1)			in. H2O
Temperature Controller (T1)	60	786	°F
Recirculation valve position	2	2	# Turns open
TPH Concentration Out (Effluent)		0	ppm
Unit Operational Time		6284	hours

	CHECKED	REPLACED
Water Knockout Liquid level	✓	
Sparge Air Compressor Filter	✓	
Grease Zerk Fittings	✓	
Blower Oil	✓	

Extraction Wells	Vac. in. H2O	depth to water feet	valve position % open (on/off)	OVM reading ppm
VE-1		-		
VE-2		-		
VE-3	20	5-10	100	
VE-4	20			
VE-5	20	U	U	
VE-6 (MW-5)	20			

Air Sparging Wells	sparge press. in. SCFM	depth to water feet	valve position % open (on/off)
SW-1			
SW-2			
SW-3	5-8		
SW-4	5		
SW-5	5		
SW-6	4		

Remarks:

down on 12/17 power outageCK down times calc

Water Drums Onsite

APPENDIX B



Report Number : 46635

Date : 11/1/2005

Andrew LoCicero
Blue Rock Environmental, Inc.
535 3rd Street, Suite 100
Eureka, CA 95501

Subject : 2 Vapor Samples
Project Name : Former Central BP
Project Number : NC-24

Dear Mr. LoCicero,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink that reads "Joel Kiff".

Joel Kiff



Report Number : 46635

Date : 11/1/2005

Project Name : Former Central BP

Project Number : NC-24

Sample : Effluent 10/27/05

Matrix : Air

Lab Number : 46635-01

Sample Date : 10/27/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.20	0.20	mg/m3	EPA 8260B	10/28/2005
Toluene	< 0.20	0.20	mg/m3	EPA 8260B	10/28/2005
Ethylbenzene	< 0.20	0.20	mg/m3	EPA 8260B	10/28/2005
Total Xylenes	< 0.20	0.20	mg/m3	EPA 8260B	10/28/2005
Methyl-t-butyl ether (MTBE)	< 0.20	0.20	mg/m3	EPA 8260B	10/28/2005
Benzene (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	10/28/2005
Toluene (in ppmv)	0.051	0.050	ppmv	EPA 8260B	10/28/2005
Ethylbenzene (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	10/28/2005
Total Xylenes (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	10/28/2005
Methyl-t-butyl ether (in ppmv)	< 0.10	0.10	ppmv	EPA 8260B	10/28/2005
TPH as Gasoline	< 20	20	mg/m3	EPA 8260B	10/28/2005
TPH as Gasoline (in ppmv)	< 5.0	5.0	ppmv	EPA 8260B	10/28/2005
Toluene - d8 (Surr)	98.0		% Recovery	EPA 8260B	10/28/2005
4-Bromofluorobenzene (Surr)	98.0		% Recovery	EPA 8260B	10/28/2005

Approved By: 
Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



Report Number : 46635

Date : 11/1/2005

Project Name : Former Central BP

Project Number : NC-24

Sample : Influent 10/27/05

Matrix : Air

Lab Number : 46635-02

Sample Date : 10/27/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	6.1	0.25	mg/m3	EPA 8260B	10/29/2005
Toluene	62	0.25	mg/m3	EPA 8260B	10/29/2005
Ethylbenzene	14	0.25	mg/m3	EPA 8260B	10/29/2005
Total Xylenes	91	0.25	mg/m3	EPA 8260B	10/29/2005
Methyl-t-butyl ether (MTBE)	< 0.25	0.25	mg/m3	EPA 8260B	10/29/2005
Benzene (in ppmv)	1.9	0.080	ppmv	EPA 8260B	10/29/2005
Toluene (in ppmv)	16	0.070	ppmv	EPA 8260B	10/29/2005
Ethylbenzene (in ppmv)	3.1	0.060	ppmv	EPA 8260B	10/29/2005
Total Xylenes (in ppmv)	21	0.060	ppmv	EPA 8260B	10/29/2005
Methyl-t-butyl ether (in ppmv)	< 0.10	0.10	ppmv	EPA 8260B	10/29/2005
TPH as Gasoline	2100	25	mg/m3	EPA 8260B	10/29/2005
TPH as Gasoline (in ppmv)	540	7.0	ppmv	EPA 8260B	10/29/2005
Toluene - d8 (Surr)	93.0		% Recovery	EPA 8260B	10/29/2005
4-Bromofluorobenzene (Surr)	96.4		% Recovery	EPA 8260B	10/29/2005

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 46635

Date : 11/1/2005

QC Report : Method Blank Data

Project Name : Former Central BP

Project Number : NC-24

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.20	0.20	mg/m3	EPA 8260B	10/28/2005
Toluene	< 0.20	0.20	mg/m3	EPA 8260B	10/28/2005
Ethylbenzene	< 0.20	0.20	mg/m3	EPA 8260B	10/28/2005
Total Xylenes	< 0.20	0.20	mg/m3	EPA 8260B	10/28/2005
Methyl-t-butyl ether (MTBE)	< 0.20	0.20	mg/m3	EPA 8260B	10/28/2005
Benzene (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	10/28/2005
Toluene (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	10/28/2005
Ethylbenzene (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	10/28/2005
Total Xylenes (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	10/28/2005
Methyl-t-butyl ether (in ppmv)	< 0.10	0.10	ppmv	EPA 8260B	10/28/2005
TPH as Gasoline	< 20	20	mg/m3	EPA 8260B	10/28/2005
TPH as Gasoline (in ppmv)	< 5.0	5.0	ppmv	EPA 8260B	10/28/2005
Toluene - d8 (Sur)	97.3		%	EPA 8260B	10/28/2005
4-Bromofluorobenzene (Sur)	97.0		%	EPA 8260B	10/28/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

KIFF ANALYTICAL, LLC
2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By: Joel Kiff





2795 2nd Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4802

SRG # / Lab No.

46635

Page 1 of 1

Project Contact (Hardcopy or PDF To):

Andrew L. Ciceri

California EDF Report?

Yes No

Company / Address: Blue Rock Env.

535 3rd St. #102 Berkeley CA 94710

Sampling Company Log Code:

Phone #:

707 441 1934

Fax #:

707 441 1949

Global ID:

Project #:

NC-24

P.O. #:

EDF Deliverable To (Email Address):

Project Name:

Former Central BP

Sampler Signature:

Project Address:

2160 Central
Ave McKinleyville
CA

Sampling

Container

Preservative

Matrix

Sample Designation

Date

Time

40 ml VOA

Sleeve

Poly

Glass

Teflon

HCl

HNO₃

None

Dark

Water

Soil

Air

MTBE (EPA 8260B) per EPA 8021 level @ 5.0 ppb

MTBE (EPA 8260B) @ 0.5 ppb

BTEX (EPA 8260B)

TPH Gas (EPA 8260B)

5 Oxygenates (EPA 8260B)

7 Oxygenates (EPA 8260B)

Lead Scav. (1,2 DCA & 1,2 EDB-EPA 8260B)

Volatile Halocarbons (EPA 8260B)

Volatile Organics Full List (EPA 8260B)

Volatile Organics (EPA 524.2 Drinking Water)

TPH as Diesel (EPA 8015M)

Total Lead (EPA 6010)

W.E.T. Lead (STLC)

12 hr

24 hr

48 hr

72 hr

1 wk

For Lab Use Only

Relinquished by:

A. L. C.

Date

10/27/05

Time

1430

Received by:

PEI IX

Remarks:

Results in ppm + mg/m³

Relinquished by:

Date

Time

Received by:

Relinquished by:

Date

10/28/05

Time

1030

Received by Laboratory:

R. M. Kiff Analytical

For Lab Use Only: Sample Receipt

Temp °C	Initials	Date	Time	Therm. ID #	Coolant Present
					Yes / No